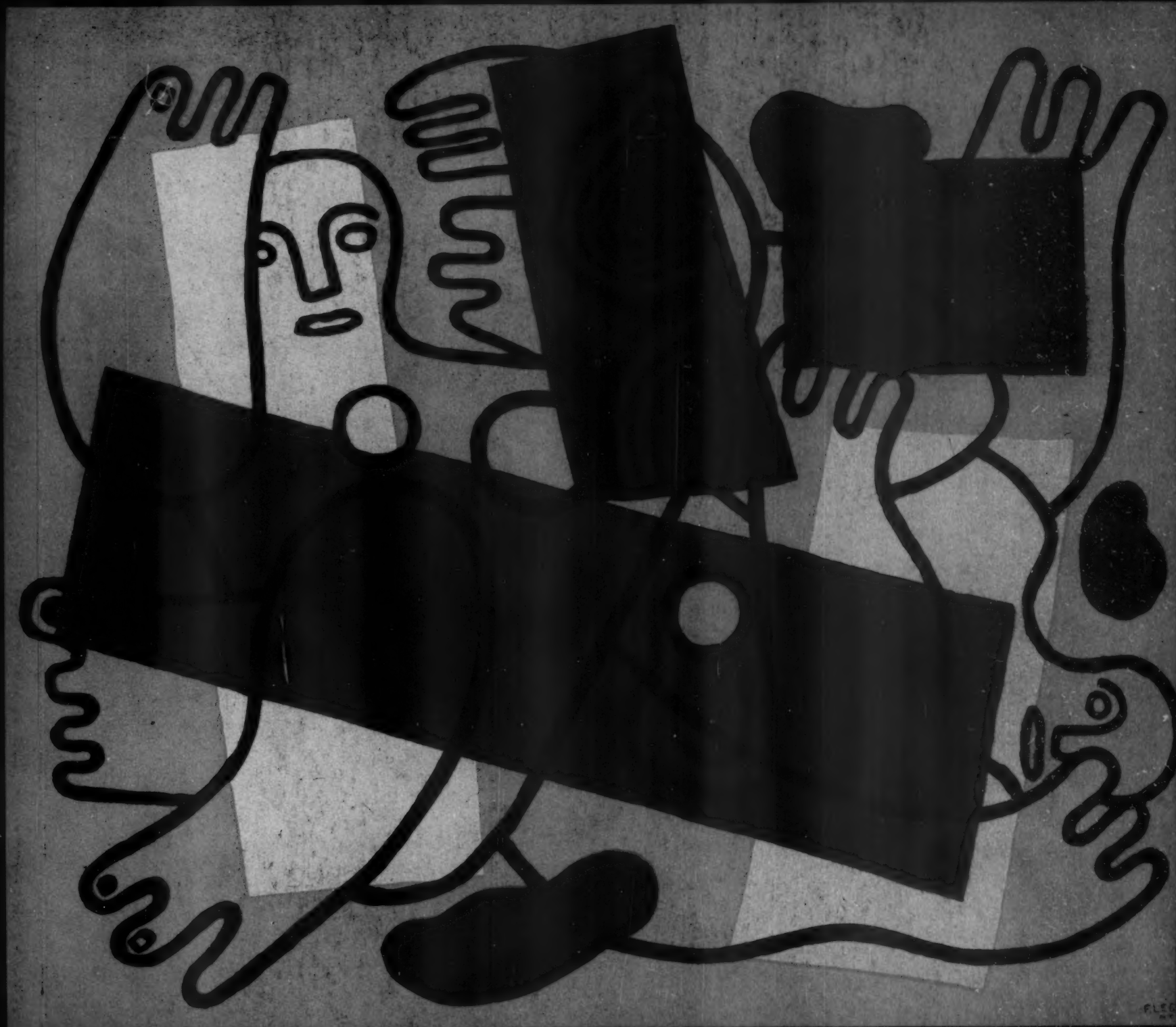


American Fabrics

NUMBER TWENTY-EIGHT

SPRING 1954

PRICE FOUR DOLLARS



INCORPORATING

American Industrial Materials



*Look for this label...it identifies
the finest wools in the world*

FORSTMANN WOOLEN COMPANY
PASSAIC, N.J.



American Fabrics

*... dedicated to the belief that Fashion begins with the Fabric . .
that the American textile industry casts a major influence on the
economic and social aspects of the world in which we live and that
it has deservedly attained the world's pinnacle from which it can never
be dislodged. This volume number twenty-eight of American Fabrics,
focussing its editorial spotlight on Modern Finishes,
presents, again, a special section devoted to
industrial fabrics and materials.*

Board of Editors: Cora Carlyle, Dr. George E. Linton, Howard Ketcham, Estelle K. Silvey, Capt. J. A. Murdocke, R. Bissing. Art Editors: W. Lully, Harry Hering, Al Greenberg, Phil Franznick. Staff Photographer: Joshua M. Weiner. Vice-President and Advertising Manager: Joseph C. Stein. Ass't Advertising Manager: Murry Gordon. Business Mgr.: C. I. Rohrlach. Circulation Mgr.: Marc Ross. Ass't to Publisher: Christopher Fremantle. Publisher: William C. Segal.

AMERICAN FABRICS, Empire State Bldg., New York 1, New York.

AMERICAN FABRICS is published quarterly by Reporter Publications, Incorporated, who are the publishers also of GENTRY, a consumer publication for men. Eight dollars per year. Single issue, Two dollars.

Subscription Price to AMERICAN FABRICS, Twelve dollars a year; single issue, Four dollars. Contents copyrighted 1954, Reporter Publications, Incorporated; nothing herein may be used in whole or in part without written permission of the publishers. Printed in U. S. A.



TABLE OF CONTENTS

COVER

Les Plongeurs, by Fernand Léger. *Private collection, New York City.*

TEXTILE HIGHLIGHTS OF 1953..... 47

A compilation of outstanding events occurring in the textile field during the past year.

MODERN FINISHES 53

Important current developments in the field of textile finishing, with analyses of their significance for merchandising from mill to consumer.

Some Fundamentals of Modern Finishing..... 56

Mercerizing 59

Dyeing 60

Textile Printing 62

Water-Repellents 64

Weather-Control Finishes 65

Texturizing — the Pre-Resin Period..... 66

Texturizing — the Resin Revolution..... 67

Fire-Retardant Finishes 70

Guide to Some Well-Known Finishes..... 71

Shrinkage-Control 76

Warp Knit Finishing..... 79

Wrinkle-Resistant Finishes 80

Economics of Finishing..... 82

True or False? ... a quiz on textile finishing..... 83

NEW PRECISION TEXTURIZING MACHINE..... 85

Results obtained in producing the Shepardene texture exceed normal expectancy.

CHART FOR SPOT AND STAIN REMOVAL..... 86

A general reference chart for use in the care of clothing.

CORDUROY IN CURRENT FASHIONS..... 88

This historic fabric, regarded formerly as the workhorse of textiles, has attained a phenomenal fashion popularity and a diversity of uses.

How a contemporary designer and manufacturer are styling corduroy fashions for American fashion needs.

COLOR SPACE-DYED YARNS..... 93

Modern application of a primitive technique brings new possibilities for textile design.

TEXTILE DESIGNS FROM VARIOUS NATIONS..... 94

Illustrations of characteristic designs by textile artists of different countries.

MURDOCKE REPORT ON MEN'S FASHIONS..... 96

BRINGING CUSTOM TAILORING TO READY-TO-WEAR..... 98

The craft of Harry Frechtel, whose manufacturing technique is bringing custom tailoring to middle bracket wardrobes.

COLOR AS A PRACTICAL MEDIUM..... 101

How the power of color affects modern living in all aspects from industry to personal morale.

THE STORY OF CHENEY BROTHERS..... 102

The history and development of one of America's outstanding organizations — the Cheney Mills.

THE CONSUMER WANTS TO KNOW..... 106

Representing the consumer, Cora Carlyle asks questions, and Textile Editor Dr. George Linton answers them.

AMERICAN INDUSTRIAL MATERIALS..... 109

COLORS CAR BUYERS WANT..... 113

An analysis by Howard Ketcham of the color trends in the field of automobiles.

THE JACQUARD TREND IN AUTOMOBILE UPHOLSTERY..... 118

Fabric styling for cars points to the use of jacquards for the coming years.

FROM WORK TO GLAMOR..... 120

A heavy nylon industrial fabric is used as a screen-printed decorative fabric.

HIGH-FIDELITY FABRIC..... 121

A growing fabric specialty which meets the needs of the sound engineer in various types of application.

AIRLINE HOSTESS UNIFORMS..... 122

In a rapidly expanding field of clothing specialties for transportation industries, the manufacturer of airline hostess uniforms utilizes a variety of standard fabrics.

METALLIC YARNS EFFECT MAGIC IN DECORATIVE FABRICS... 128

Growing use of metallic yarns stems from the revolution in modern living and from technological developments.

LETTERS TO THE EDITOR..... 129

PROGRESS REPORT ON RAMIE..... 130

Modern technology is helping to make one of nature's oldest fibers serve the needs of today's living.

INDUSTRIAL FABRICS QUIZ..... 133

A true-or-false quiz concerned with industrial textiles.

ADVERTISERS' INDEX 134

GRETA PLATTRY DISCOVERS

AVCOSET*

WASHABLE RAYON PRINTS

CANARY ISLE WILES



Hola — it's the lively, colorful silhouette of

Spain in a magnificent resort print

of Avisco rayon, styled by Folker, with

Avcoset quality control for permanent

washability. Dress about \$23,

matador pants about \$13, blouse

about \$10. Best & Co., New York;

Rich's, Atlanta; Bonwit Teller, Philadelphia;

Scruggs-Vandervoort-Barney, St. Louis.

Avisco



"Avisco" is the trademark for products
of American Viscose Corporation,
350 Fifth Avenue, New York 1, N. Y.

*Trademark of American Viscose Corporation
for fabrics and cellulose esters.

AEROTEX RESIN 110 WETTING
 PARAMUL® REPELLENT 115 RESILIENT HAND
 NON-DURABLE WATER REPELLENCE
 AEROTEX® CREAM 450 STIFF HAND
 PYROSET DO FIRE RETARDANT
 AEROTEX RESIN 180 SHRINKAGE CONTROL
 DECERESOL® WETTING AGENT OT 25% CLEAR
 AEROTEX ACCELERATOR 187
 WORSTED LIKE HAND
 PERMEL PLUS® FINISH
 DURABLE FIRE RETARDANCE
 AEROTEX RESIN P-116
 SUPPLE HAND
 AEROTEX FIRE RETARDANT NDS
 ADDED BODY AND FULLNESS
 AEROTEX RESIN P-114

To answer Your Every Need --- A COMPLETE RANGE OF THE FINEST IN QUALITY FINISHES

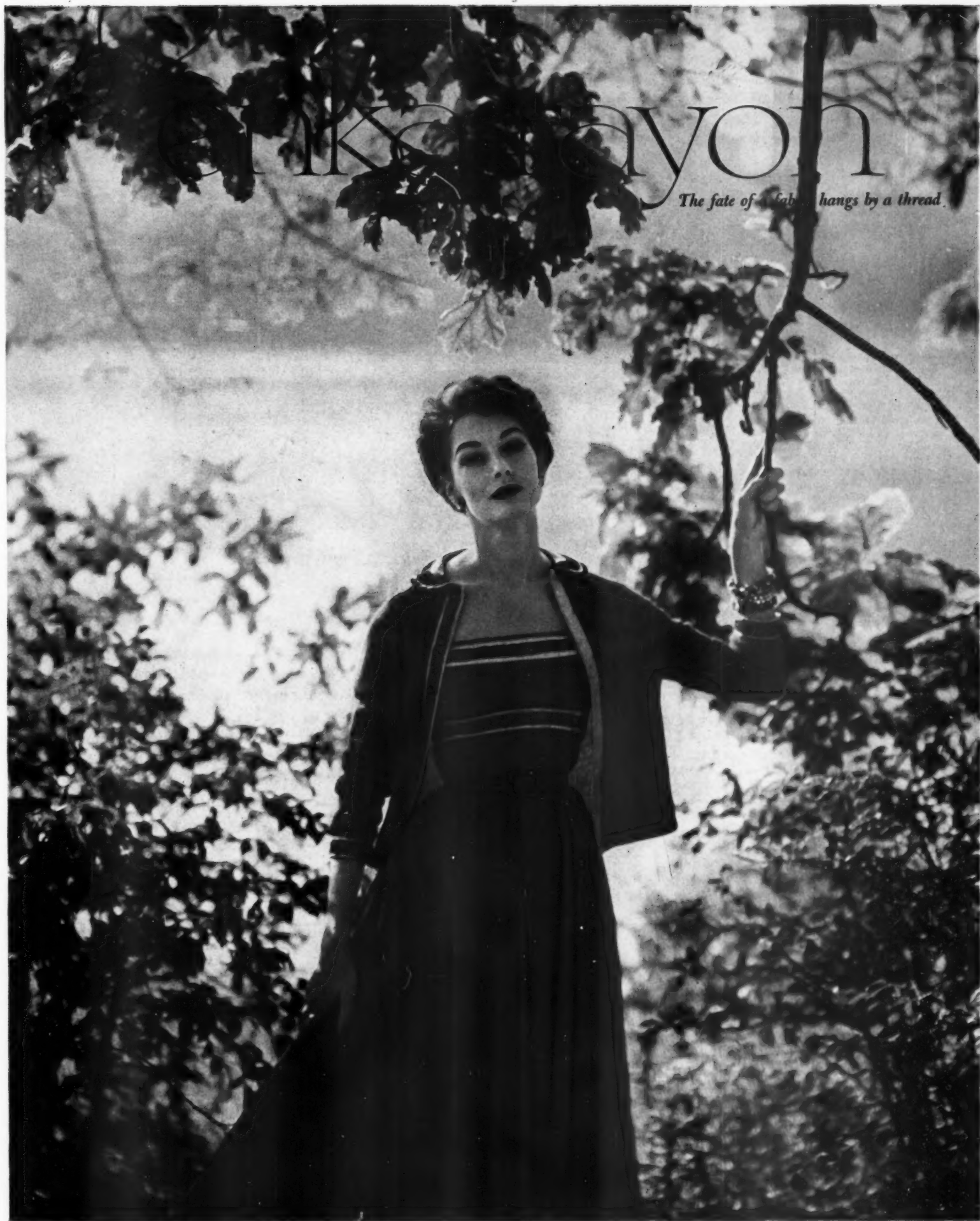
DECERESOL WETTING AGENT NI CONC.
 AEROTEX SYRUP 250 CONC.
 FIRM HAND
 DURABLE SPOT REPELLENCE
 ACID COLLOIDS
 AEROTEX RESIN M-3
 BULKY HAND
 PARAMUL REPELLENT DC-1
 WRINKLE RESISTANCE
 AEROTEX FIRE RETARDANT NDC
 DURABLE WATER REPELLENCE
 AEROTEX RESIN 802
 DRY HAND
 AEROTEX BUFFER 190 A
 PARAMUL REPELLENT DC-2
 DECERESOL WETTING AGENT P SPECIAL
 AEROTEX SOFTENER II
 ABRASION RESISTANCE
 PERMEL RESIN
 LONGER FABRIC LIFE
 AEROTEX RESIN P-200
 LANASET® FINISH
 DECERESOL WETTING AGENT Q
 AEROTEX RESIN 7513
 AEROTEX RESIN 133
 CREASE RESISTANT
 AEROTEX ACCELERATOR MX
 PYROSET® FINISH
 AEROTEX ANTISTATIC
 DECERESOL WETTING AGENT OT 25% AQUEOUS
 AEROTEX RESIN P-117
 AEROTEX RESIN UM SPECIAL
 SUPERSET® FINISH
 CRISP HAND
 AEROTEX RESIN 801
 LONGER WEAR
 AEROTEX SOFTENER W
 NON-DURABLE FIRE RETARDANCE
 AEROTEX RESIN 120
 STABILIZATION CONTROL
 AEROTEX ACCELERATOR UTX
 REWETTING
 *TRADEMARK OF AMERICAN CYANAMID COMPANY



AMERICAN Cyanamid COMPANY
 TEXTILE RESIN DEPARTMENT
 BOUND BROOK, NEW JERSEY

BOSTON • PHILADELPHIA
 CHICAGO • LOS ANGELES
 CHARLOTTE • PROVIDENCE

30 ROCKEFELLER PLAZA
 NEW YORK 20, N. Y.
 Tel. Circle 7-0100

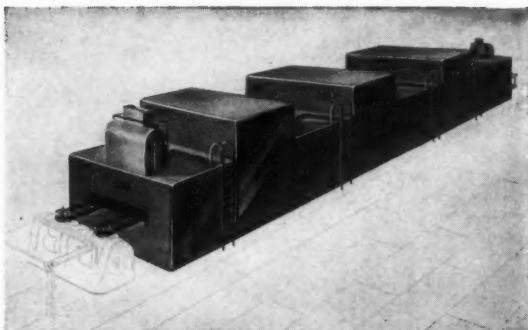


The High Fashion... Oleg Cassini dress with Empire overtones, in gently flowing Extra Dry, Julius N. Werk's famous crepe woven entirely of Enka Rayon. With it, a cashmere sweater, dyed to match, satin-trimmed. • Saks Fifth Avenue • Erlebach's, Washington • Wm. H. Block, Indianapolis.

American Enka Corporation, 206 Madison Avenue, New York 16, N. Y.

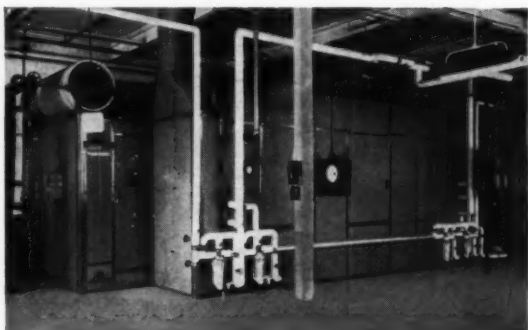
TENTER HOUSING

Completely redesigned. Assures uniform distribution of air. Greatest drying capacity ever offered the industry—50% to 100% more drying capacity than conventional tenter housings. New panel construction—minimum interior structural members—easy access to interior. Economical operation makes possible sufficient savings to pay for equipment in two years.



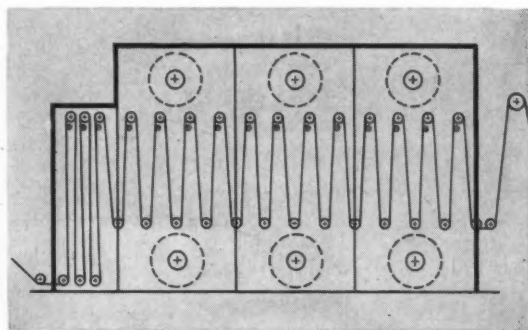
LOOP DRYER-CURER

Through the use of an entirely new concept of air movement, this new Proctor machine provides the greatest drying uniformity ever obtained. It achieves maximum capacity with minimum power consumption. Less down time—more production. Flexibility enables you to run a complete line of fabrics. Exclusive advantages include: Ease of cleaning, direct connected motors, new panel construction, shorter installation time.



ROLLER DRYER & CURER

Offers these Proctor advantages. New unit construction. Balanced air circulation which gives even drying without shading or migration of finish or color. Drying temperatures may be regulated. Shaded Pole Motors which drive rolls and automatically vary speed with cloth tension to accomplish "no stretch" drying. Removable lint screens, easy accessibility, smooth interior.



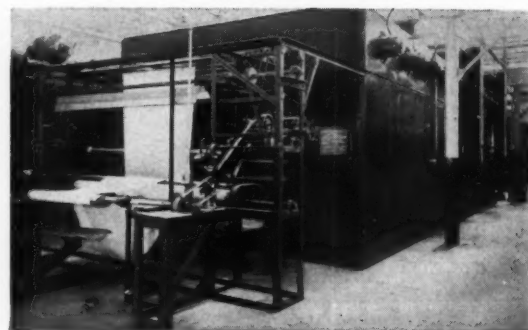
LOOP AGER FOR PRINT GOODS

Revolutionary in the aging of vat colors on print goods because of savings in labor, quality of work and a revealing reduction of seconds experienced in existing agers. Printed face of cloth never in contact with rolls or other members in passage. Handles a wide range—from light to heavy fabrics.



MULTIPASS AIRLAY DRYER

For the ultimate in appearance of fabrics that are to be dried without tension. Air serves to carry and dry the material in a relaxed condition and the uniform distribution results in rapid drying. Redesigned dryer operates at high speeds and high temperatures. Requires minimum maintenance.



Fine fabrics deserve the BEST in Finishing Equipment

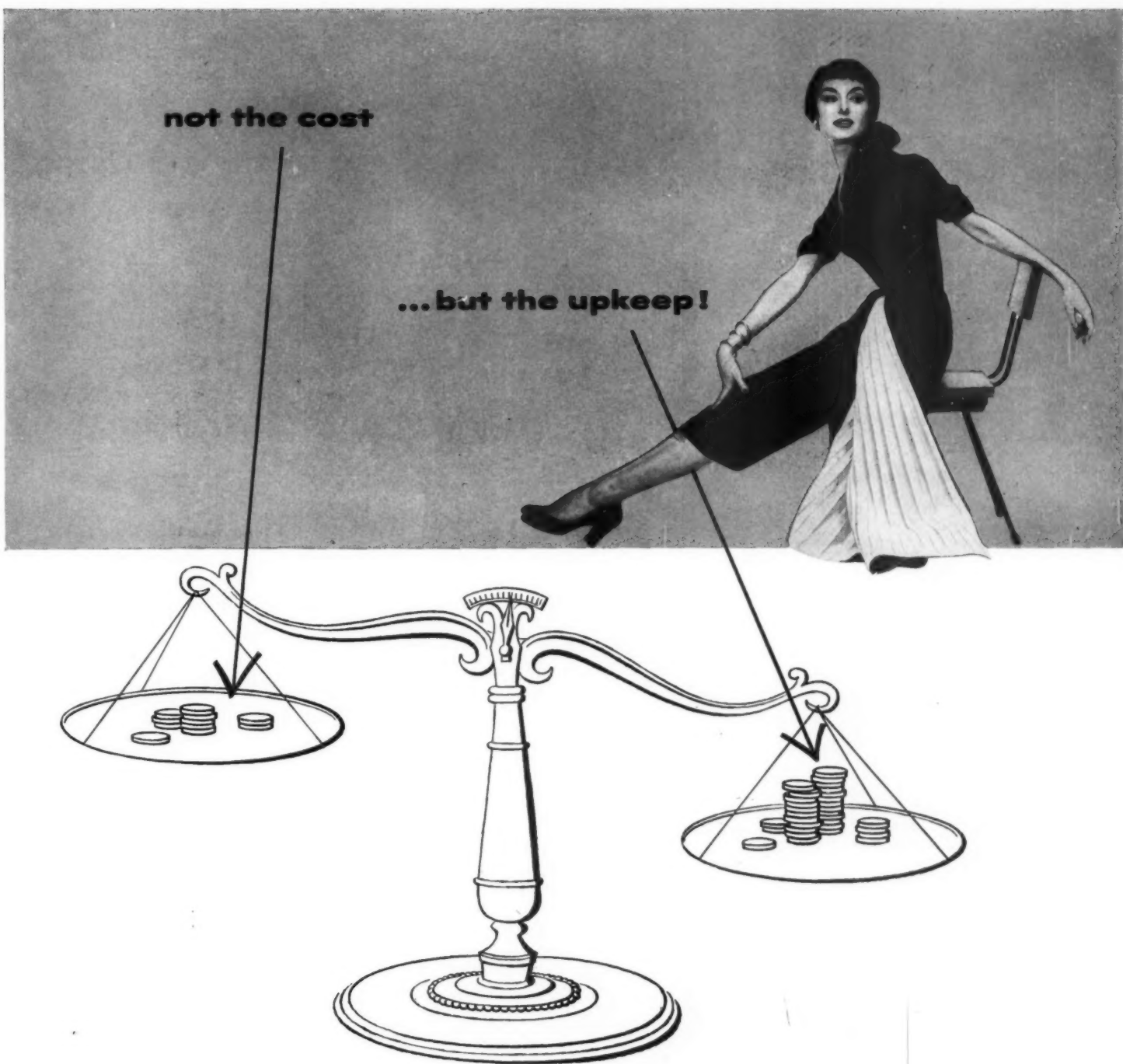
**These Five New
Proctor Dryers
have been engineered to
meet every requirement
of fine finishing**

The features of design and operation that have been engineered into every one of these new Proctor dryers are the result of long experience in supplying machinery to the textile industry and a thorough knowledge of what mill men want in finishing equipment. Behind each of these machines is a performance guarantee backed by the integrity of the Proctor name . . . a name that has been associated with every major advance in finishing equipment since the middle of the last century. Your finest fabrics deserve being finished in Proctor systems. Write for more complete information today.

*See the latest Proctor Machinery at the American
Textile Machinery Exhibition at Atlantic City
April 26 to 30*

PROCTOR & SCHWARTZ, INC.

*The First Name in
Drying Equipment & Textile Machinery
PHILADELPHIA 20, PA.*



This old complaint is fast becoming a thing of the past. Now, fashions made with Du Pont's modern-living fibers offer beauty *plus* practicality. Now, customers may have smart styles that stay fresh-looking, wear longer and require *less upkeep* . . . in time, money and effort.

Easier, low-cost care is just *one* of the many advantages you can build into the fabrics you create with Du Pont's modern-living fibers. You

can use them, too, to offer unique textures, rich colors, pleat and shape retention, feather-weight warmth . . . and the many other practical plusses that fit the way Americans live today.

Count on Du Pont's leadership to help you keep pace with the newest advances in fiber research. Use Du Pont's modern-living fibers to create fabrics for today's customers, and tomorrow's . . . fabrics that satisfy, fabrics that sell.

DU PONT'S MODERN-LIVING FIBERS

NYLON) RAYON) ACETATE) ORLON®) DACRON®
ACRYLIC FIBER POLYESTER FIBER



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



colors with a future

Celanese*

CELAPERM*

the acetate yarn with the "sealed-in" color

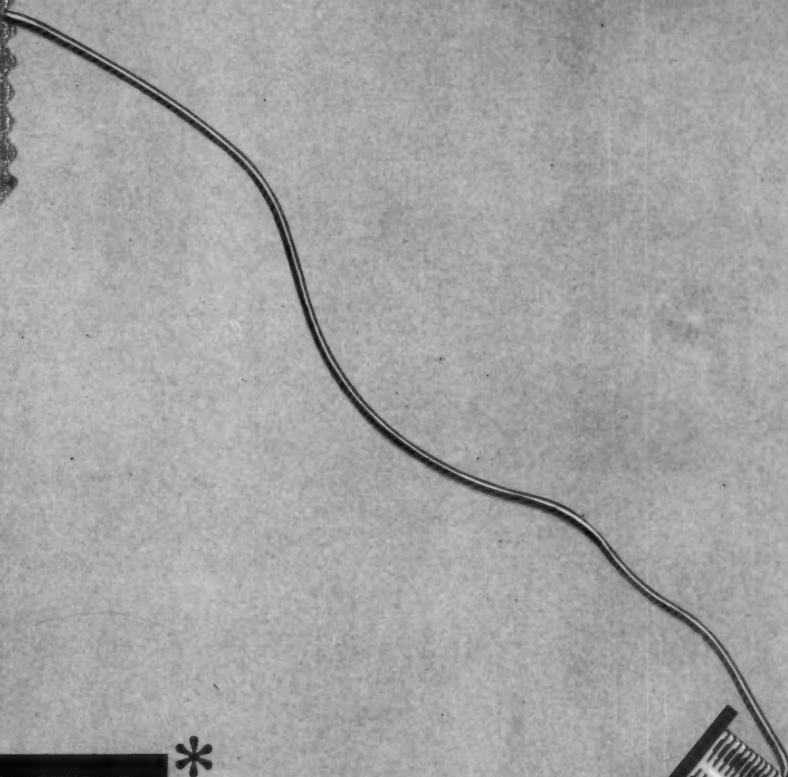
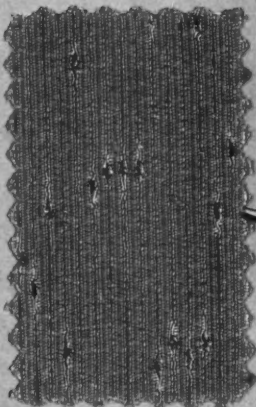
Celanese* Celaperm*—the acetate yarn with the sealed-in color—is the yarn with a future! Wherever color beauty and modern color performance are important, Celaperm is important. In home furnishings fabrics, in fabrics for swim wear, and in fabrics for men's, women's and children's apparel look for Celaperm!

Celanese Corporation of America,
New York 16, N. Y.

*Reg. U.S. Pat. Off.



"Gold Nugget"
a Contempora
fabric of
satin-backed
Lastex, flecked
with Metlon. In
white, aqua or
orchid. Bathing
suit by Rose
Marie Reid.



METLON

makes
everything
look better...

*** the non-tarnishing metallic yarn**

Metlon's brightness is "sealed-in" forever! Metlon will never tarnish... even in the saltiest air, or the most glaring sunlight. Metlon launders beautifully, dry cleans like new, stays soft and satiny to the touch. Let Metlon's textile technicians show you the most effective ways of using metallics to carry out your own ideas.

METLON CORPORATION—432 Fourth Avenue, New York 17, N. Y., Tel. MU 3-5962
"A Division of Acme Backing Corp."





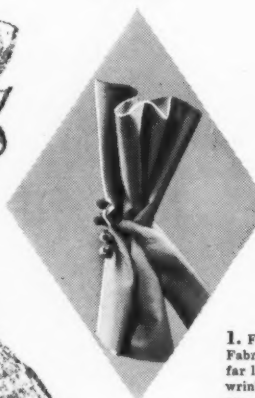
Facility*

fabrics

are Double-Resistant!

1

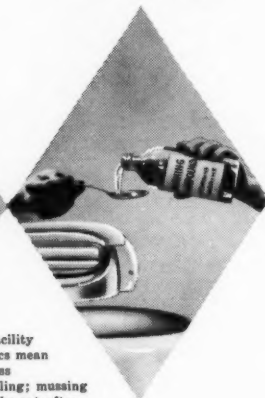
Resistant to
wrinkles



1. Facility
Fabrics mean
far less
wrinkling; musing
smooths out after
packing or wearing.

2

Resistant to
chlorine reaction



2. Facility Fabrics
conserve fiber strength
in normal washing
and dry cleaning
in spite of chlorine
content powders and
bleaches!

Facility Fabrics are "so easy to care for!"... In addition to their unique "double-resistant" qualities, they wash easily in tub, machine or commercial laundry... can be dry-cleaned with no difficulty... won't shrink out of fit... need no starch... very little ironing... are mildew and perspiration-acid resistant according to U.S. Government standards.

Only Reeves Facility Fabrics have all these benefits.

REEVES

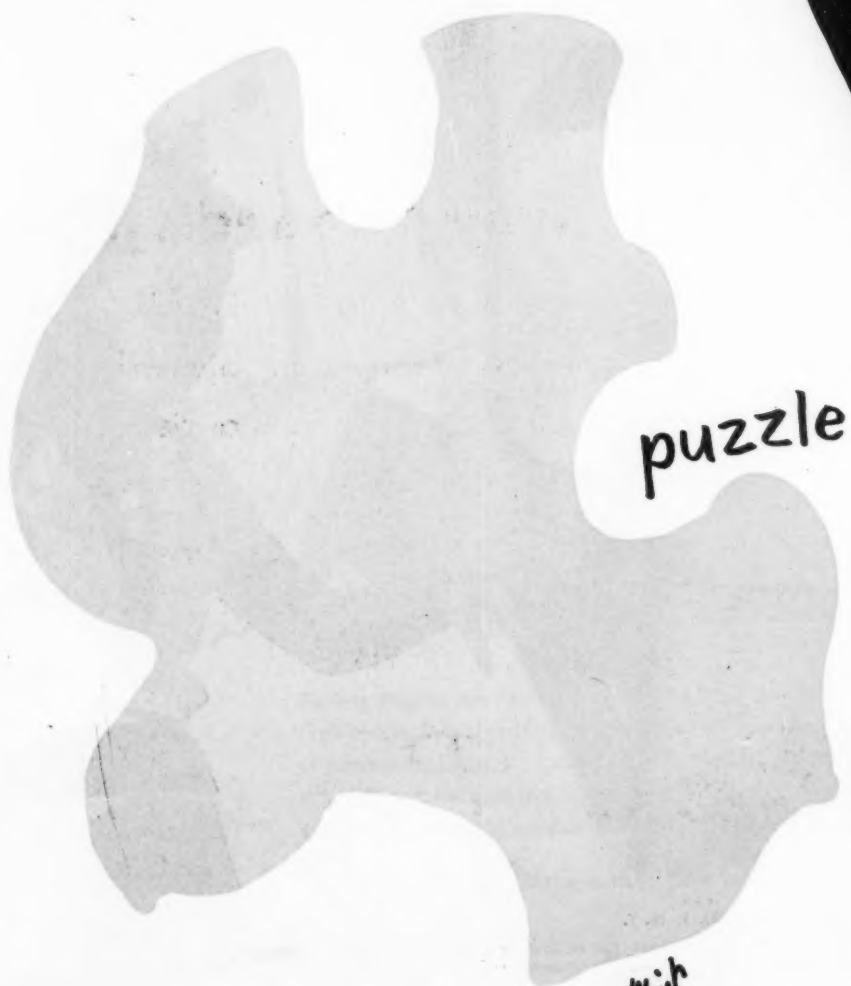
BROTHERS INC., 34 WORTH ST., N. Y. 13, N. Y. Representatives in Atlanta • Birmingham • Boston • Charlotte
Chicago • Cleveland • Dallas • Los Angeles • Minneapolis • Philadelphia • Portland, Oregon • St. Louis • Montreal • Toronto • Winnipeg

*Trade Mark



SPORTSWEAR BY JANTZEN

BEAUNIT MILLS, INC. • 450 SEVENTH AVE., NEW YORK 1, N. Y.

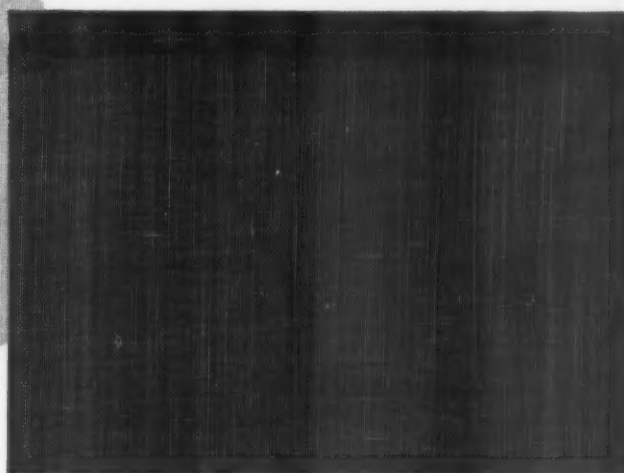
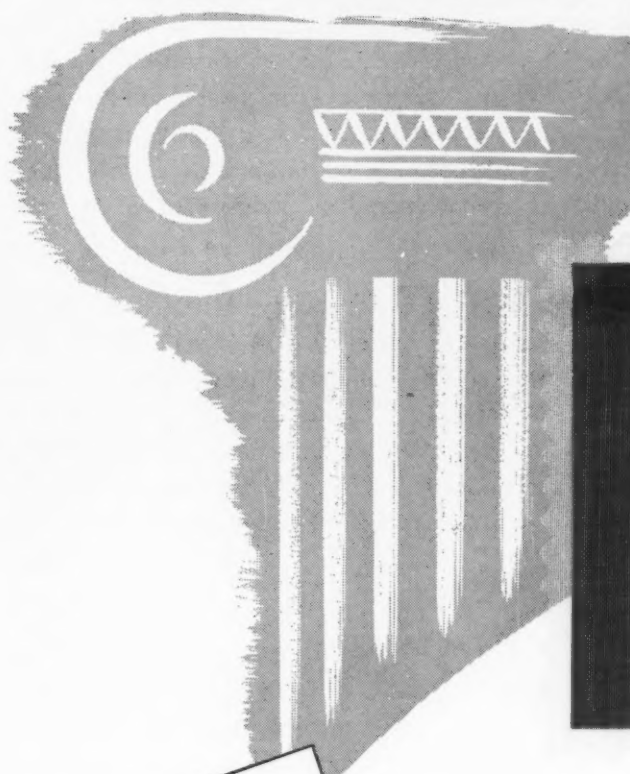


Mid

I. Zendman, inc., Laces, 135 Madison Ave., New York 16

"BE GUIDED AT THE START BY THE FINISH"

Bellmanized* CRYSTAL



Permanent Organdie Finish

... A New Bellmanized application of the Heberlein* process which presents a refreshingly different version of permanent organdie ... having a unique balance of crystal-like crispness and suppleness of hand that makes it more ideally adaptable to the operation of cutting, sewing and styling.

Bellman Brook BLEACHERY COMPANY
(8 Miles from Times Square) FAIRVIEW, N.J.

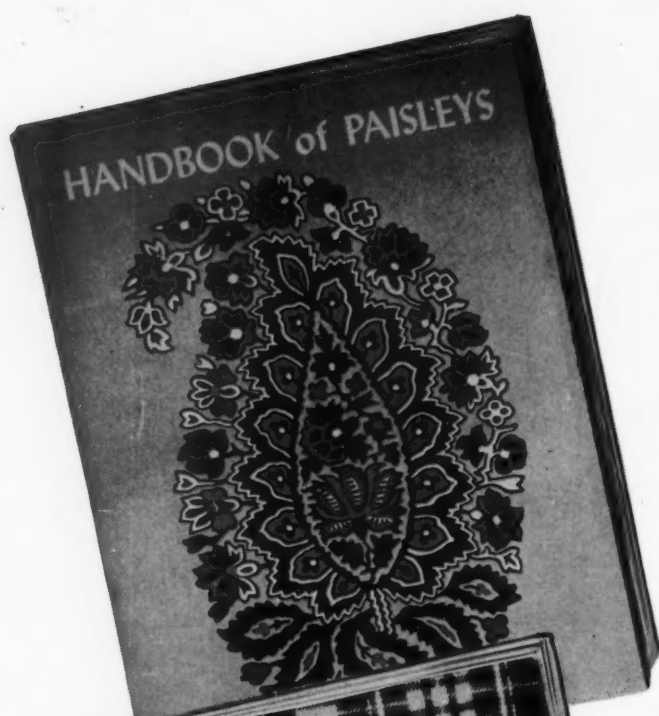
Finishers of ORGANDIES • PIQUES • LAWNS • DIMITIES • BROADCLOTHS •
CHAMBRAYS AND OTHER SHEER COTTONS • VAT DYEING AND PRINTING •
BELLMANIZED STARCHLESS FINISH
LICENSEES FOR SANFORIZED, TEBILIZED (FOR TESTED CREASE RESISTANCE) AND
"HEBERLEIN" PROCESSES.

*®

As an added service to AMERICAN FABRICS readers, we are offering a limited quantity of individually bound brochures of the following

Creative Projects

reprinted from earlier issues, complete with actual swatches and tip-ons, at \$2 each.



PAISLEYS. The feature Paisley section from Issue No. 17 of AMERICAN FABRICS, reprinted and bound in a special full-color cover, as a HANDBOOK OF PAISLEYS. Contains 44 pages of a wealth of material . . . the origin and history of Paisley design . . . Paisley antique and current design illustrations . . . inspiration for designers . . . how a Paisley is designed and printed. Profusely illustrated and swatched with outstanding examples of contemporary Paisley designs. *Price, \$2 per copy.*

CLAN TARTANS. A 36-page brochure on THE STORY OF CLAN TARTANS, reproducing practically all of the major Tartans in full color. Contains the history and background of the Scottish Clans . . . 38 full-color reproductions of authentic Tartans . . . color tip-on illustrations of historically important types of Tartan dress . . . list of all the Scottish clans, families and septs . . . a glossary of interesting Tartan facts and terms. *Price, \$2 per copy.*

THE STORY OF SILK. A 44-page brochure bound in a full-color cover, dealing with every aspect of Silk from sericulture to finished cloth. Contains treatises on the origin and history of Silk . . . the growth of world sericulture and its economic and social influence . . . the problem of merchandising Silk for the consumer market . . . Silk screen printing . . . the Jacquard weaving process . . . a glossary of technical Silk terms . . . stages in the life cycle of the silkworm . . . Silk from the raw state to the finished yarn. Profusely illustrated and liberally swatched. *Price, \$2 per copy.*

Use this simple order form!

American Fabrics Magazine, Empire State Bldg., New York 1, N. Y.

Enclosed is payment of \$_____ to cover the items checked alongside, at \$2 per item.

- ☐ HANDBOOK OF PAISLEYS
- ☐ STORY OF CLAN TARTANS
- ☐ STORY OF SILK

Name _____

Address _____

City _____ Zone _____ State _____

GILDING THE LILY...

THAT'S
OUR
JOB

MAKING FINE FABRICS finer. Giving warp knits dimensional stability... enduring quality... controlled shrinkage... crease resistance... imparting new texture interest... dyeing them with colors fast to washing and gas fading. In short, fitting warp knit fabrics for a brilliant career in the modern world. That's the Triangle story.

TRIANGLE FINISHING CORP.

JOHNSTOWN, NEW YORK



TRIANIZED
Quality Control
Heat Setting



TRIACET
Washable
Acetate Colors



TRIAPACT
Compacting
Process



TRIADUR
Durable
Finishes



TRIASUEDE
and
TRIANAP Textures

Permel Plus

TEBILIZED

•SANFORIZED•

HYDRO-PRUF

EVERGLAZE



ZESET

ZELAN

VATRU-SET

SUPERSET

NORTH CAROLINA FINISHES

**feature the brand names
that build profits**

Established 1916 with less than 100 employees, we have grown to over 1100 employees with a weekly capacity in excess of 2,500,000 yards of cotton and synthetic fabrics. Our modern plant consists of separate divisions at one location for handling cottons and synthetics. Each division has stainless steel dye ranges constructed only for cotton or synthetic cloth. These machines were built to bring out the best in your fabrics—and naturally, a machine designed for one specific purpose easily outperforms multi-use equipment.

Phone our representatives for additional information. Offices are maintained at two locations in New York for your convenience.

NORTH CAROLINA FINISHING CO.
SALISBURY, NORTH CAROLINA

Agents:

GORDON COLES

COTTONS

93 Worth St., N. Y. 13
WO 4-4050

GEORGE L. MARSHALL

RAYONS

1450 B'way, N. Y. 18
WI 7-0117

All Finish
Trademarks
Reg. U. S.
Pat. Office

AUCOSET

Impregnole

Designed for You . . . Gehring helps you create the newest
fashions in lovely lingerie by giving you

masterpiece designs in luxurious nylon lace. Dress designers
will find the same creative craftsmanship and quality
in our all-over laces for the dress industry.

If you make lovely things . . . make them lovelier with

NYLON
Gehring Laces

149 Madison Avenue, New York 16
Manufacturers of Laces and Embroideries, represented in all leading cities



"ALSCO"*

*a spot resistant
finish*

for

PURE SILK FABRICS



A finish developed to reduce to an absolute minimum the spotting of "PURE SILK FABRICS" . . .

Does not affect the hand and drape of luxurious Silk Fabrics and is especially adapted to the new trend in "Men's Silk Suitings" and to the dress trade.

We at SCOLA DYE WORKS are happy to present this new technique in the finishing of "PURE SILK FABRICS."

For further information 'phone or write

**Registration of trade name applied for.*



SCOLA DYE WORKS, INC.

SCOLA

HAWTHORNE, NEW JERSEY • Tele.: Haw. 7-1030
N. Y. OFFICE: 185 MADISON AVENUE • MU 5-0217



KEY

to the gateway
of style...

Peerless
WOOLENS

TWEEDS

FLANNELS

SHETLANDS

PEERLESS WOOLEN MILLS

(a division of Burlington Mills)

257 Fourth Ave., New York, N. Y. • Mills at Rossville, Ga.

CARLETON SALES CORPORATION

19 Union Square West, New York 3 • ALgonquin 5-7860 *Selling Agents for:*

*Carleton
Ware
Gonic
Hampshire*

December 15, 1953

Apparel Manufacturing and Retailing Trades

Gentlemen:

Four of the leading woolen mills in the country have recently formed the Carleton Sales Corporation. This corporation will sell the fabrics manufactured by Carleton Woolen Mills, Gonic Manufacturing Company, Ware Woolen Company and Hampshire Woolen Company.

We are proud to tell you that our sales policy has been set and geared to the following principles.

1. Quality and Styled Merchandise.
2. Realistic Pricing.
3. Timely Delivery.

Carleton leads the field in machine washable flannels and the policy which instigated this leadership will continue.

The Carleton Sales Corporation will continue its efforts to create, develop and introduce those fabrics which will mean better sales for you and better living and comfort in fine fabrics for all America.

We are in the process of putting together our new Fall Line. We will have the widest and most diversified line of flannels ever. Our new coating fabrics are ready for Fall and our machine washable woolen line is, in the opinion of some of our customers, the best we have ever done.

Don't miss seeing our fabrics, since seeing is believing.

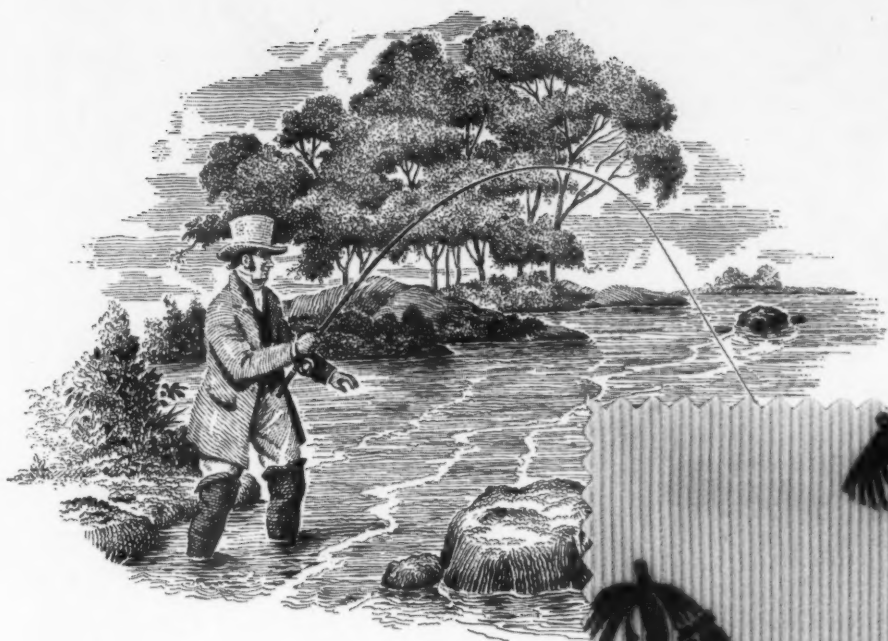
Sincerely yours,

William W. LeVeen

William W. LeVeen
President

WWL/m





Presenting

Open
Season...

One of the original and interesting new patterns in Greenwood Printed Corduroy for 1954.

GREENWOOD MILLS INC., 64 Worth Street, New York 13, N. Y., DIgby 9-4400





to the
distinguished
Fashion designers
here and
abroad

—that so many distinguished fashion designers—here and abroad—look to Laces by Ametex to add touches of beauty to their creations—

imbues us with a feeling of distinct pride...and impells us to the firm resolve to continue to create laces of such beauty and quality as to merit this preference always.

American Textile Co., Inc. 25 EAST 31st STREET, NEW YORK 16 • MILLS: PAWTUCKET, R.I.

Laces by
Ametex





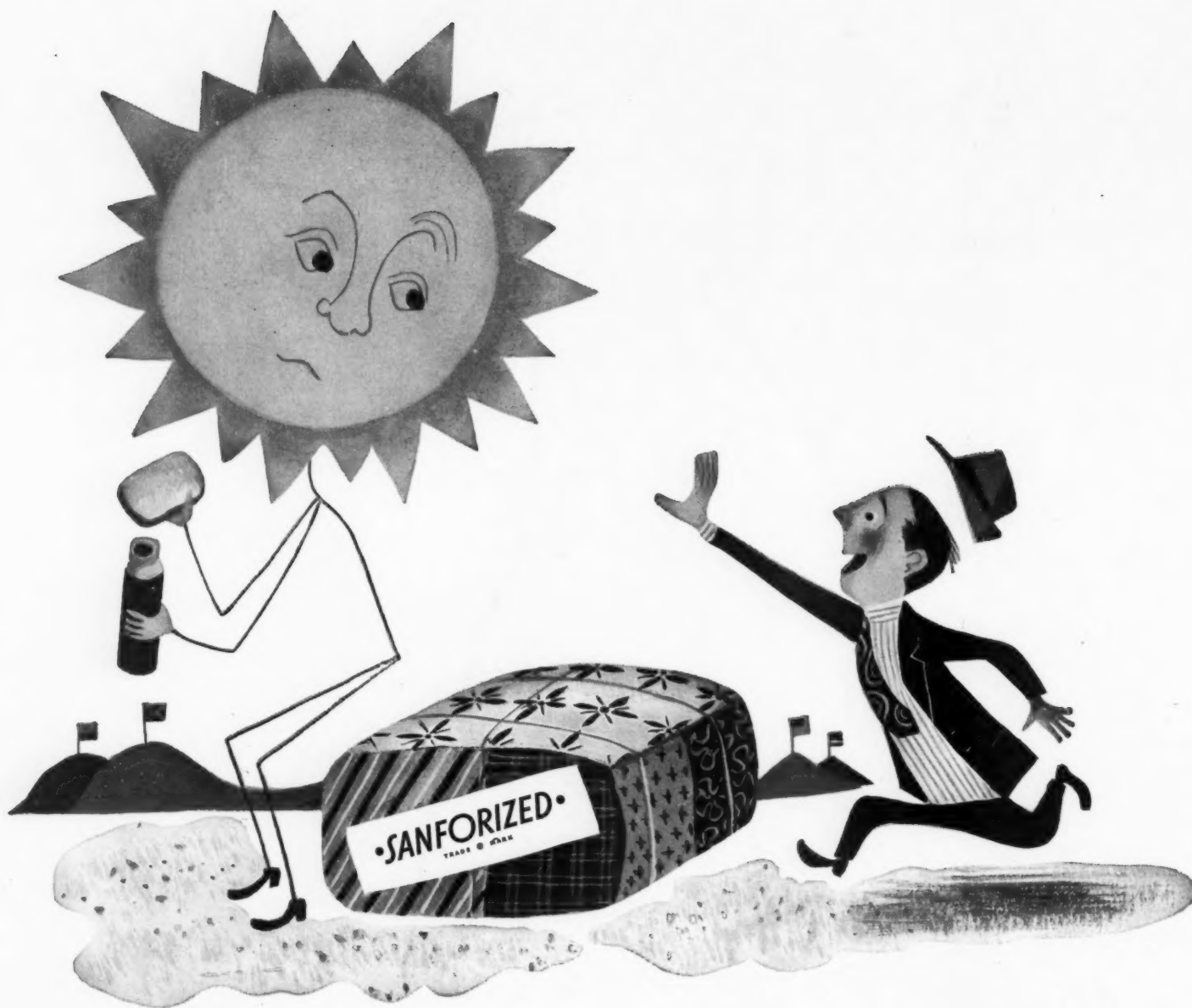
to the
fine stores
throughout
the
Country

—we are deeply appreciative of the fact that Laces by
Ametex are featured “over the counter” by so many of America’s fine
stores...and you may be sure our policy of supplying these stores with laces
of rare beauty and superb quality will be continued in the new year
just ahead—and in all the years to come!

American Textile Co., Inc. 25 EAST 31st STREET, NEW YORK 16 • MILLS: PAWTUCKET, R.I.

Laces by
Ametex





The Sun never sets on the "Sanforized" label!

WHEREVER you go in this troubled world, you find cotton garments. Wherever you go, you find consumers buying "Sanforized"-labeled cottons.

The civilized world knows that when cottons shrink out of fit, it's money tossed away. This same world also knows that "Sanforized" on a cotton is an assurance of *permanent fit, permanent style*.

Small wonder that this famous trade-mark, "Sanforized," is a buying guide consumers rely on . . . the world over.

Cluett, Penbody & Co., Inc. permits the use of its trade-marks, "Sanforized," "Sanfor," and "Sanforizado," only on fabrics which meet its rigid shrinkage requirements and which are checked by continuous technical inspection. There are 252 "Sanforized" licensees in 33 countries throughout the world.



An American designer reaches back to 1910 for a clever inspiration. Tina Leser translates the little girl look of another era into one of her famous resortwear originals. Gale & Lord's tucked gingham welcomes the sun in this buttoned and banded Tina Leser bit of Americana.

Gale & Lord fabrics from Burlington Mills

1407 BROADWAY, NEW YORK 18, NEW YORK



Pur-Vel



The Puritan
Face Finish That
**MAKES YOUR
SYNTHETICS
DOESKIN-SOFT!**



Puritan puts a new face on greige goods. It's the face of fashion, a face of lofty, velvet-like texture.

In addition, your fabrics receive this complete dyeing and finishing service:

- ACCURATE DYEING IN SHARP, CLEAR COLORS
- DEPENDABLE CREASE AND SOIL RESISTANCE
- FABRIC NAPPED, BRUSHED AND SHEARED
- DURABLE WATER REPELLENCY (if desired)

Fabrics up to 60 inches wide

Give your synthetics or blends for men's and women's wear these modern selling advantages of Puritan Face Finishing.

And remember . . . for soft surface synthetics, it's Puritan Face Finishing.

Puritan Piece Dye Works
PATERSON, NEW JERSEY





Treasured* mandelace

... for over 60 years

* In the days of Louis XIII, lace was stored under lock and key—and some in sturdy chests!

MAX MANDEL LACES, INC. 119 West 40th Street, New York 18, N. Y.



there's a
new market for
spring sweaters...

VICARA

First, a few happy words about the fall season in sweaters. It's BIG—
and it's getting BIGGER. Women—men, too—are wearing more sweaters on
more occasions. They buy sweaters in the fall, and they'll buy sweaters
in the spring. IF the styles are new, the colors appealing, the
prices right—and IF they can find them in the stores.

a new
opportunity
for more sales...



Vicara[®]
ZEIN FIBER

Fiber Division • Virginia-Carolina Chemical Corporation,
500 Fifth Avenue, New York 36, N. Y.

THE FIBER THAT IMPROVES THE BLEND

UNIFORMITY • BEAUTY • VERSATILITY • ECONOMY • EASE IN USE • SPINNABILITY
DYE-ABILITY • WARMTH • HANDLE FEEL AND DRAPE • ELASTICITY • RESILIENCE
ABSORBENCY • HEAT RESISTANCE • WASHABILITY • NON-FELTING • NON-ITCHING
NO ODOR • NO KNOWN ALLERGIES • MOTH RESISTANCE • MILDEW RESISTANCE

*a new reason
for spring lines...*

SELLS SWEATERS FOR SPRING!

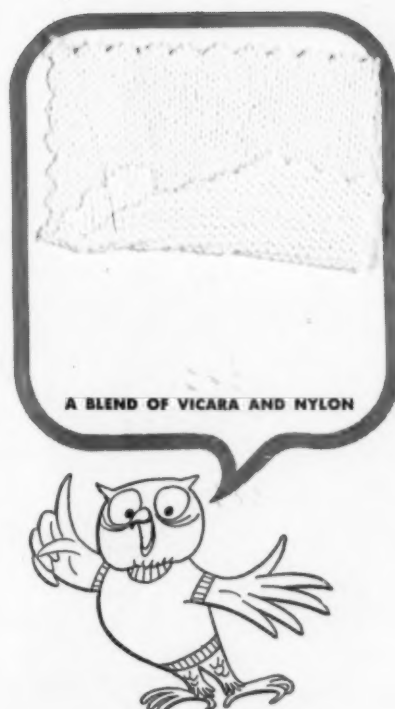
Who wants a spring season in sweaters? Everybody. The spinners and knitters. The salesmen and designers. Retail stores and consumers.

So what are we waiting for? Who in the crowd is dragging his feet? You've got the market, the talent, the factories, the salesmen. We've got the fiber. And, brother, what a fiber for sweaters! Ask any manufacturer who used *Vicara* this fall. There were plenty. We asked them—and when they could take time out from counting the orders — they murmured glowing things like — “Soft. Luxurious. Washes like a dream. Won't pill. Comfortable because it absorbs moisture. Holds its shape. Here—feel for yourself. Have you ever felt anything so wonderfully soft?”

We hadn't—and neither have the customers who flocked to the stores and paid sensible prices for these sweaters containing at least 50% *Vicara*.

Of course, most of these customers knew about *Vicara*, knew it as the “softest fiber known to hand” — from advertisements they'd seen in their favorite national magazines. Lots of advertisements in lots of magazines — all through the summer and fall. For spring *Vicara* plans another sweeping advertising program. We'll be telling your customers from coast to coast in fashion magazines and mass magazines that there's nothing like *Vicara* in sweaters for spring. Nothing like its softness, its lightweight warmth, its washability, its heavenly luxury at a low figure.

That's the story. It could be your story if you join the Sweaters for Spring parade. Because of its unique properties *Vicara* has created the opportunity for a Second Season in Sweaters. Not to mention the opportunity of tying in with the impressive *Vicara* advertising and promotional program.





Pace setters for 1954 fashions and sales are three exciting groups of "Everglaze" fabrics . . . the sheer, the silky, and the no-iron. All are beautiful, all are easy to care for, all are amazingly crease resistant. You and your customers can always depend on "Everglaze" fabrics for the ultimate in durable crease resistance, because all "Everglaze" fabrics must conform to rigid production controls and standards.

Like all members of the world-famous "Everglaze" family, the new "Everglaze" beauties have a wonderful, sales-appealing combination of durable properties:

- crease resistant
- soil resistant
- wash or clean beautifully
- dry quickly
- little or no ironing
- resistant to shrinking and stretching
- resistant to perspiration stain and odor
- stay lastingly lively and fresh

Let fashion-right "Everglaze" fabrics set the selling trend for you! Put the sheer, the silky, and the no-iron in your 1954 sales picture — now!

resistant Everglaze* beauties are setting new fashion trends



1
2
3

"Everglaze" 70 natural-look fabrics — in new sheer weights — are crease-resistant news not only for apparel, but also for beautiful, quick drying curtains and draperies.

"Everglaze" 73 silky-soft fabrics — characterized by their subtle lustre, are top fashion for every type of resort and summer wear — from practical sun-and-fun clothes to the most glamorous of evening gowns.

"Everglaze" 74 no-iron fabrics — the easy-care fabrics with a wonderful wide range of interesting new surface effects — are slated to be fashion's choice for seasons to come — in round-the-clock clothes for men, women, and children.

*A trade-mark signifying fabric processed and tested according to processes and standards controlled and prescribed by Joseph Bancroft & Sons Co.



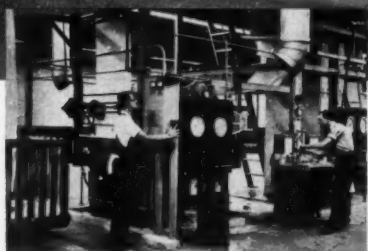
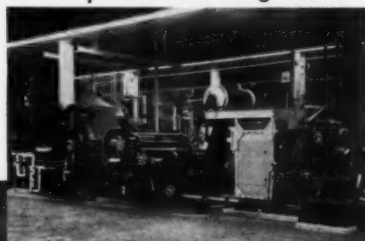
GREGG

men, methods, machines
at your command...



1. Continuous dyeing ranges

2. Compressive shrinking machine



3. Continuous bleach range

4. Checking color matches



What Gregg can and would like to do for you:

Vat piece dyeing • Waterproofing (all types) • Flame proofing • Vinyl coating • Expert finishers of fine corduroys • Specialists in meeting Government finishing specifications.

The NEW GREGG dyeing and finishing plant in Graniteville, South Carolina, is the last word in equipment and completeness. Gregg is a division of Graniteville Company.

The NEW GREGG finishing plant is up-to-date, progressive and fully manned to efficiently serve the cotton goods converter.

Gregg's capable hands, supervised by "young" veterans, will keep you out of trouble.

Gregg has a world-wide reputation for top performance.



Gregg is a division of Graniteville

Mc CAMPBELL & COMPANY

40 WORTH STREET • NEW YORK CITY 13

St. Louis 1 • Chicago 6 • Boston 10 • Los Angeles 14 • Atlanta 3 • Dallas 2



captured!

the look and feel of
Fine Embroidery
in

vermicelli

PROCESSED FABRICS

another first!

another exclusive!

Velveray[®]
PROCESS

For information about "VERMICELLI"
and other VELVERAY Processes,
please phone or write . . .

Velveray
CORPORATION

Converters & Printers of Plastic Film

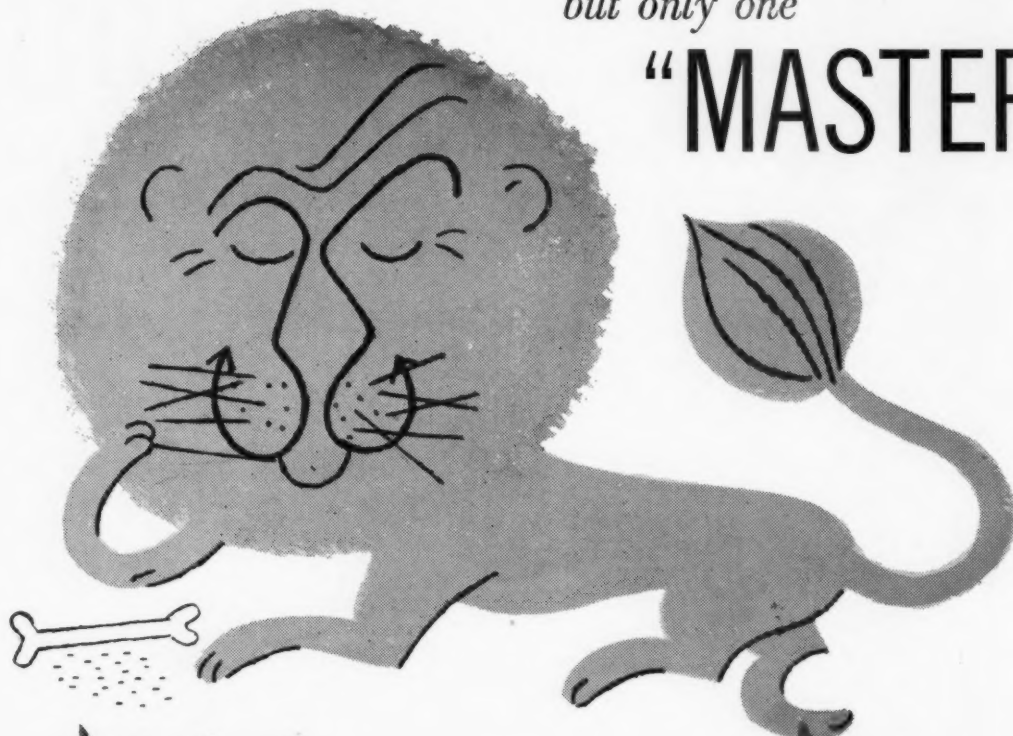
Novelty Printers of Textiles-in all Phases

15 West 34th Street, New York 1, N. Y.

PLANTS: CLIFTON, NEW JERSEY FALL RIVER, MASSACHUSETTS

*as in everything...there can be many followers,
but only one*

"MASTER"



CRUSHMASTER

LAUNDROMASTER

DUCKMASTER

ETCHMASTER

and licensed finishes Everglaze® and Tebilized®

Only CRUSHMASTER can give a garment those wonderful qualities of added wrinkle-resistance, greater shape-retention, longer-lasting beauty...plus softer, richer-looking lines!

Only LAUNDROMASTER is past-master at the specialized art of providing better washability and complete shrinkage control!

Only ETCHMASTER can guarantee that certain fresh new depth of color ...permanently "etched in" for the life of the garment!

Only DUCKMASTER is the finest of all fabric finishes offering absolute water-repellency and greater crease-resistance!

all services of... **ASSOCIATED DYE & PRINT CO., INC.**

Paterson, New Jersey

New York Telephone Number: WIsconsin 7-7850



If you know a man who
already has virtually everything,

we suggest that a subscription to
GENTRY may be
a unique and most
welcome gift.....

\$8

* * *

GENTRY in the Empire State Building, New York 1, N. Y.

design for

PROFIT

Give your woven and knitted fabrics "The Golden Touch" with Tryon Space Dyed Yarns.

Unexcelled for manufacturing economies. Seconds and irregulars are greatly decreased because space dyed yarns run exceptionally well in quantity production. Design versatility assures an endless variety of styles and color combinations for creating new, different, and distinctively beautiful garment fabrics for men, women, and children. Tryon Space Dyed Yarns are available in all types of fibers, up to four colors on one end of yarn — suitable for piece and yarn dyed fabrics. Write for complete information, prices and color cards.

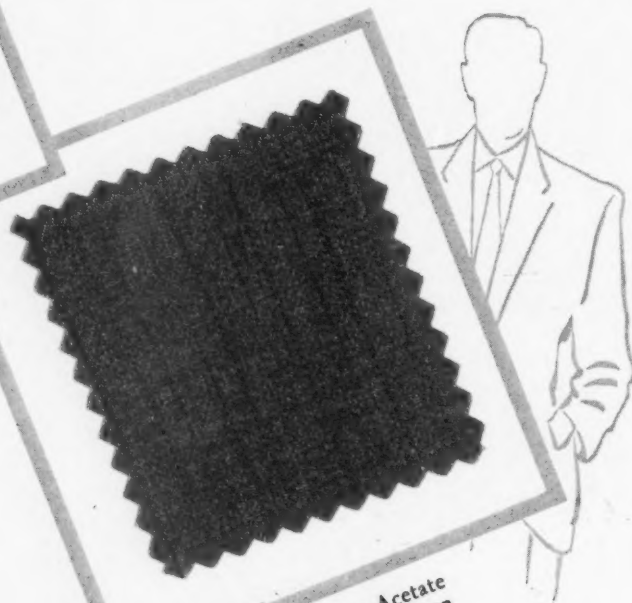
space dyed decoration



Piece Dyed Worsted decorated with
space dyed Mercerized Cotton
A Pacific Mills Fabric



Piece Dyed Fabric Blend of
Rayon-Dacron-Acetate decorated
with space dyed filament acetate
A Robbins Mills Fabric



Piece Dyed Fabric Rayon-Acetate
decorated with space dyed spun Rayon
Rainbow Woosterlon
A Rosewood Fabric

Tryon

PROCESSING COMPANY
TRYON, NORTH CAROLINA

Merrimack

VELVETEENS

AND

CORDUROY

...world's finest!



TIME-TESTED
for Quality and Beauty!

Merrimack MANUFACTURING COMPANY, INC.
1450 Broadway, New York

LOS ANGELES — 819 Santee St. • MONTREAL — 1460 Union Ave. • DALLAS — 2nd Unit, Santa Fe Bldg. • CHICAGO — 222 W. Adams St.
SEATTLE — 1803 8th Ave. • PORTLAND, ORE. — 309 S. W. 3rd Ave. • ATLANTA — 254 E. Paces Ferry Rd., N. E. • Mills at LOWELL, MASS.

Golden Jubilee - 50 years of Fabric achievement



The power in NATIVE power nets whispers . . . but it's always there.
Because NATIVE makes the kind of nets, power nets, laces,
embroideries and tricot that manufacturers can rely on. They come to
NATIVE with assurance . . . and they've been doing it for 50 years.

Native

NATIVE LACES & TEXTILES, INC., 261 Fifth Avenue, New York 16, New York, MUrray Hill 6-0400

The fabric finish that's selling
more merchandise every month

nylonized^{®*}

customers look for it on

hosiery

lingerie

dresses

blouses

nylon

cotton

rayon

acetate

If you're looking for a merchandising "plus"—nylonized[®] merchandise is your answer. On tags, transfers and tickets—the nylonized trade mark assures customers of fabrics with more absorbency, greater comfort, a softer, silkier "feel."

We'll be glad to tell you the details.

*Nylonized—the new Wonder Finish is the bonding of type 8 nylon to nylon, acetate, rayon or cotton. It is a registered trade mark of Hans C. Bick, Inc., and permission must be secured before it may be used on tags, tickets or transfers.

Hans C. Bick, Inc., READING, PENNSYLVANIA

Originators of the "Nylonized" finish



a plant

that helped bring the

Cotton Plant BACK TO LIFE!



where — revolutionary finishing techniques, achieved by the most advanced manufacturing methods and the most skilled craftsmen, have led to the


re-birth of cotton in this age of miracle fabrics

COTTON, the world's most popular, most widely used fabric was only a few years ago drifting into neglect . . . new fabric names, new blends, new synthetics were gradually usurping the throne of "King Cotton". And then . . . cotton was "treated" to some miracles of its own.

Remarkable new finishing techniques are being discovered . . . fabulous new plant equipment is being devised to interpret these techniques . . . and some of the world's most skilled personnel are at work coordinating this new cotton finishing.

The results? Organdy finished by Defiance, for instance . . . a luxuriously lustrous, richly crisp, astonishingly durable organdy that is once again a preferred fabric for women's ready-to-wear, or curtains for their windows.

The secret lies in the fact that "the finish is made of the fabric itself"



Organdy by

THE TRULY PERMANENT ORGANDY FINISH
DEFIANCE
"HEBERLEIN PROCESS"

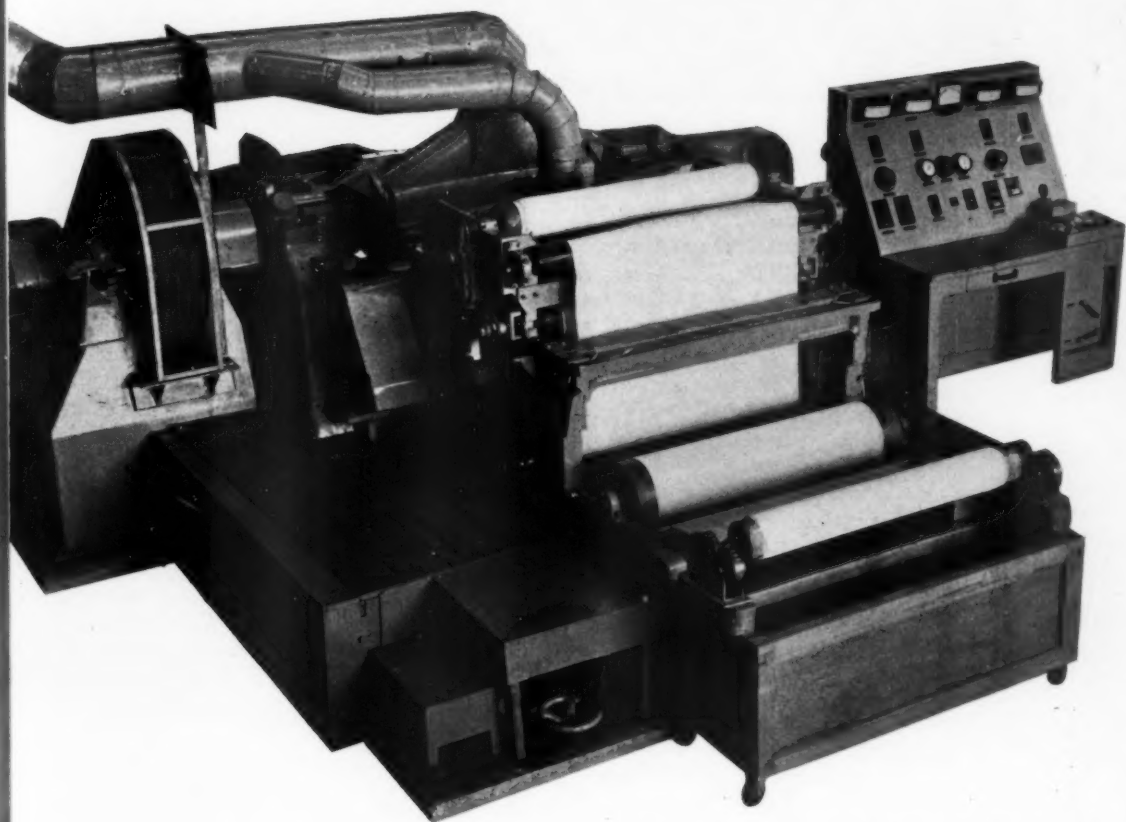
DEFIANCE BLEACHERY • Barrowsville 12, Massachusetts

Craftsmen of the "Heberlein Process"

JOSEPH D. WARNE, INC. • SOLICITING SALES REPRESENTATIVES • 40 WORTH ST. • NEW YORK 13 • N. Y.

American Silk Mills is proud to offer to the textile industry,
an incredible new service of

texture engineering



At the very moment when TEXTURE is just beginning to be the dominant interest in fabrics—American Silk Mills announces a new process of Texture Engineering capable of fantastically precise control. It produces textures from a barely perceptible doeskin on tissue-sheer stuffs, to a deep fleece in bulkier fabrics. It can suede hard finishes that never could be textured before. It gives surprising new faces to the most commonplace of materials.

*It is produced by the only machine of its kind in the world.
The service is available to the entire textile industry.*

WE CALL IT THE

shepardene process

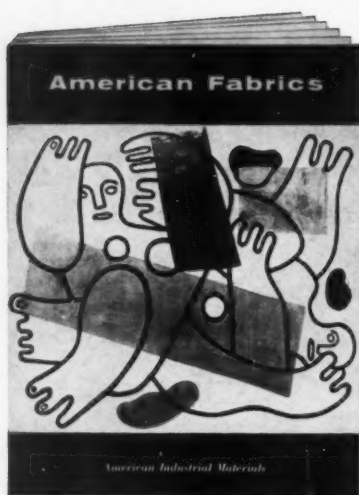
T.M. REG.

another history-making first for

**AMERICAN
SILK MILLS, INC.**



1400 BROADWAY, NEW YORK 18, N. Y. • LACKAWANNA 4-2300



THE PEOPLE WHO ARE RESPONSIBLE for DECISIONS BASED on TEXTILE KNOWLEDGE

A look into the circulation files of AMERICAN FABRICS, together with an analysis of classifications of readers.

Many of our friends have expressed agreeable surprise when they chanced to come upon American Fabrics subscribers not only in the high places of manufacturing and retailing, but in places where they did not expect to find American Fabrics. People have told us of seeing copies in the homes of heads of many of the country's greatest corporations . . . in the libraries, classrooms, and reference rooms of leading universities and training schools . . . in foreign countries on every continent. To bring to life in numbers the vibrant, vital readership and influence of American Fabrics is difficult. But the following analysis, we believe, can be useful to those who wish to get an all-over view of America's key textile publication. In presenting these figures, we have felt it necessary to present a few accompanying comments on an audience which is responsible for making the major textile buying decisions in this country.



*In the
retail field
... 6,007*

American Fabrics is read and studied by 6,007 retailers, merchandise managers, buying executives, store presidents, and training department executives in some of the finest and largest retail and department stores of America. For many of the larger stores from three to twenty yearly subscriptions are entered. A cross-section of American Fabrics subscribers in retail establishments includes: Lord and Taylor, Saks Fifth Avenue, Neiman-Marcus, Bullock's, J. L. Hudson, L. S. Ayres, Marshall Field, Filene's, Jordan Marsh, Higbee, Wanamaker, Auerbach's, Miller and Rhodes, Halle Brothers, W. & J. Sloane, Roos Brothers, Frost Brothers, McCutcheon, Crowley Milner, Macy's, Hartzfelds, The May Company, Famous-Barr, Stix, Baer &

Fuller, Scruggs-Vandervoort, Shillito's, Kresge, Joseph Horne, Gimbel Brothers, Frederick & Nelson, Davison-Paxon, Bonwit Teller, Hess Brothers, Lerner Stores, Rogers Peet, Brooks Brothers, Z.C.M.I., Abraham & Straus, Howard Stores, City of Paris, J. W. Robinson, I. Magnin, Eaton of Toronto, Lane Bryant, in fact every important store without exception.



*In the field
of fashion
manufacturing
... 5,480*

American Fabrics is read, studied, and guides the buying decisions of some 5,480 top manufacturers of men's, women's, and children's apparel. A cross-section of American Fabrics subscribers in fashion manufacturing includes: Philip Mangone; Maurice Rentner; Handmacher; Jantzen; Henry Rosenfeld; Duchess Royal; Kaylon Company; Cluett Peabody; David Crystal; Baker Clothes; Printz Biederman; Wragge; Strutwear; Munsingwear; Alligator Company; Hart, Schaffner & Marx; Reliance Manufacturing Co.; Society Brand Clothes; Richmond Brothers; Wembley; Palm Beach; Hathaway Shirts; Marlboro Manufacturing; Forest City Manufacturing; John B. Stetson; Gottfried Company; Kickernick Company; Farrington Manufacturing; Adelaar Blouses; Rhea Manufacturing; Jamison; Junior House; Manhattan Shirts; Kenneth Tischler; Rosenau Brothers; Higginbotham, Bailey and Logan; Susquehanna Waist; Baumann Brothers; M. & D. Simon; Louis Tabak; Donnelly Garment Co.; Gernes Garment Co.; Lang Kohn; Justin McCarty; Nardis; Lorch; American Golfer; Ben Zuckerman; Mary Muffet; Beau Brummell; Harford Frocks; Dede Johnson; Carolyn Schnurer; Phillips-Jones; Shirtcraft; Clopay Corp.; Craig Manufacturing; Catalina; Witty Bros.; Ben Reig; A. Stein & Company.

In addition American Fabrics has been

repeatedly called first choice among all publications with many top designers and decorators. The following great designing names are included among our subscribers: Dorothy Draper, Dorothy Liebes, Carolyn Schnurer, Bonnie Cashin, Philip Mangone, Adele Simpson, Maurice Rentner, Bob Fatherly, Anne Fogarty, Pahlmann, Kiviette, Bernard Newman, Tina Leser, Claire McCordell, Alex Colman, Montesano, Jo Copeland, Hannah Troy, Howard Greer, Larry Aldrich, Sophie of Saks Fifth Avenue, Brigance, Clare Potter.



*In the field
of industry,
... 2,840*

American Fabrics is read, studied by, and guides the textile decisions of, executives in 2,840 major companies, including: American Radiator Corp., Grace Lines, U. S. Steamship Lines, General Motors, Chrysler Motors, Ford Motor Car Co., Studebaker, Kaiser-Fraser, Cessna Aircraft, Radio Corporation of America, Weirton Steel, Bostonian Shoes, Stewart-Warner Corp., Carborundum Co., Chesapeake & Ohio Railway Co., Esso Standard Oil Co., Armstrong Cork Co., General Shoe Corp., B. F. Goodrich Co., U. S. Steel Corp., Dunlap Tire & Rubber Corp., General Tire Co., Glenn L. Martin Co., Bendix Aviation, Grumman Aircraft Corp., Eastern Airlines, The Pullman Co., Fairchild Aircraft, White Motor Co., Briggs Manufacturing Co. . . . and, of course, American Fabrics is subscribed to and helps to mould the thinking of executives in major textile organizations all over the country.

***Perhaps you, or someone you know, would like to receive American Fabrics regularly. A subscription — \$12.00 for one year (4 issues) — \$20 for two years (8 issues) — will, we believe, give any person with creative interests in any related field a full measure of value.



**BESIDES
BEING READ
AND STUDIED AS**

an indispensable textile guide by almost every leading industrial fabric user, American Fabrics is subscribed to by special categories of textile-minded organizations including: *United States Bureau of Labor, United States Department of Agriculture, United States State Department, Ice Follies Costume Department, Connecticut Mutual Life Insurance, California Apparel Designers, Hosiery Research Council of England, Silk and Rayon Users of England, United States Information Center of Helsinki, United States Embassy in Cairo, The Shah of Persia, Council of Industrial Design of London, Department of Industry & Development of Canada, United Artists, 20th Century Fox, Warner Brothers, National Coat and Suit Industrial Recovery Board, National Broadcasting Co., Columbia Broadcasting Co., Atlantic City Centenary Association, Thomas Cook and Sons.*

In addition, American Fabrics enjoys multiple circulation at the top buying and merchandising levels in the following mail order houses and resident buying units, including: *Sears, Roebuck, Montgomery Ward, J. C. Penney, Chicago Mail Order, Spiegel's, Mutual Buying, A.M.C., Weil and Schoenfeld, Natl. Department Stores, Belk Stores, Henry Rose Stores, Federal Dept. Stores.*

✦ We call attention also to a special list of 750 foreign subscribers to American Fabrics. Many of these subscriptions are entered despite currency difficulties by directors of important foreign organizations.

MANY PEOPLE have inquired why American Fabrics makes practically no effort to get more members. Because of the very nature of the book, we cannot produce more than our limit of 19,000 copies of each number. We have felt that we can best serve those people who have a real need and use for American Fabrics. We have never attempted to "sell" or tempt prospective subscribers with special offers, etc. The past has borne out the fact that people who subscribe because *they want to* — not because *we want them* — are the best subscribers. We ourselves are stimulated, encouraged by the responsiveness and the high level of editing which our subscribers demand. And it is our belief that only an interested, responsive audience can serve to inspire a publication like American Fabrics.

American Fabrics is interested in and does continually seek new subscribers who can make use of the material and information presented in each number . . . and the form which is attached is for convenience in entering additional subscriptions.

American Fabrics . . . the basic textile publication for the nation's merchandising executives.



FAR-REACHING INFLUENCE with manufacturers, retailers, merchandise executives . . . because every person who arrives at the point of responsibility for making decisions based on textile knowledge finds American Fabrics an indispensable source book. American Fabrics is recognized as the basic textile publication for key merchandise executives.



FAR-REACHING INFLUENCE with America's great textile authorities . . . because of its undisputed authority and its unique and dramatic tri-dimensional presentation, American Fabrics has been recognized by America's greatest textile authorities themselves as the most reliable authority to present new developments to the world. Organizations such as *E. I. Du Pont de Nemours, Inc., Eastman Kodak, Joseph R. Bancroft & Sons, Inc., Deering Milliken & Co., The Wool Bureau, Inc., American Enka Corp.* . . . plus scores of converters, mills, and processors, etc., have used reprints of American Fabrics articles as educational tools for training schools, stores, consumers. Outstanding textile executives have repeatedly commented on the vital and brilliant way in which important textile developments have been reported and presented in the pages of American Fabrics, and in the wide-spread influence of these presentations.

AMERICAN FABRICS IN THE EMPIRE STATE BUILDING NEW YORK 1 NEW YORK

Please enter the following subscription for American Fabrics.

One year, \$12 ☐ Two years, \$20 ☐
Payment enclosed ☐ Bill me ☐

Name

Company

Address

City Zone State

...Cranston sculpts in copper
on Millworth cotton



Adrian Tabin dress of washable "Treasure Chest" Everglaze® retails around \$15

The simple, carved line of an Adrian Tabin creation is beautifully identified with the theme of the fabric—Millworth's "Treasure Chest" cotton. With masterly precision, Cranston gives a permanently sculptured copper finish to the floral motif of this "Treasure Chest" fabric, chosen by Tabin.

With buyers in all categories revealing a "fetish for finish", Cranston is continually developing *new* processes—bringing amazing performance properties to fabrics and enhancing the concept of the designer. The opulent, yet practical beauty of the Millworth "Treasure Chest" non-ironing, wrinkle-resistant cottons is a glowing illustration.

CRANSTON PRINT WORKS COMPANY • Sales Office—40 Worth Street, New York



What Makes Your Business Good or Bad?

Just before going to press with this issue of AMERICAN FABRICS, we asked the head of a large store in the East to name the three factors most drastically affecting business in today's fashion industry. Unhesitatingly, he ticked off on his thumb, index, and middle finger . . . (1) *weather*, (2) *over-production* — primarily at the mill level, (3) *lack of newness* in textile offerings.

Every good merchant will agree that one of the most important single factors in moving merchandise is the *weather*. An unseasonably mild fall and early winter will strongly affect an entire outerwear season. The consumer is not going to buy heavy outerwear — fur coats, woolen coats, etc. — unless a good frosty spell, coming early enough in the season, motivates her to act. Take the volume represented by this single category of apparel; add to it the millions of yards of linings and fittings which are used to complete these garments, and you get an idea of the volume of business which the weather and weather alone can lose for the fashion and fabric industries. Now there's nothing you or we can do about the weather except, perhaps, to take into account the ever-increasing demand for lightweight fabrics. So let's pass on to number two: *overproduction at the mill level*.

After a decade of building up production to meet national needs during the war and post-war years, mills are naturally loath to relinquish the momentum that has been gained. Batteries of looms running at full capacity — this is, understandably, the desideratum of mill heads. But here again, as in the case of weather, great natural laws of supply and demand dictate that continuous overproduction must eventually lead to glutting of markets and consequent forced idleness or profitless production for many mills. Only an understanding and acknowledgement of these laws will make it possible for an industry determined on capacity production to seek ways to escape such profitless production.

But when we come to point number three — *lack of originality in the textile markets* — we have another situation, and one that we can do something about. Whether the textile industry — or, for that matter, any industry — likes it or not, it happens to be a fact that the people of these United States want things that have a quality of attractive newness and originality. This, too, seems to be a natural law or principle — that a steady, unchanging diet of one type of goods inevitably leads to boredom on the part of the consumer. When it seemed that the country could keep on taking gabardine forever, the fabric suddenly faded out of the picture. The history of the fashion business is one of change, and to flout this is to court economic suicide. But it is precisely in this area, where mills *can* do something, that they act timidly, hesitantly. Surely it seems to make economic common sense to give the cutter, the manufacturer and the retailer fabrics that have sufficient

(please turn)

originality to whet and stimulate consumer appetite.

We know the difficulties of fulfilling this concept — the costliness and hazards of experimenting. Nevertheless, change has been the essence of progress in almost every branch of American industry. More than ever it seems clear that newness and originality are needed today.

At this point, we would like to call our readers' attention to an interesting fact which has been impressed upon us in our editorial position as spokesmen for this industry. Reviewing the articles of major interest which have been presented in our pages, we could not help but be struck by the fact that most of the news over the past few years, apart from the truly great advances made in the fields of new fibers, blends and finishes, and in winter cottons, laces, colorful denims, zibellines and poodles in the woolen industry, comparatively few important notes have been struck in the fields of creative, original, or news-making fabrics. Yet in this area exist possibilities for sharply stimulating consumer buying. Already we see many of our manufacturers and retailers turning to foreign mills for fabrics of originality and newness. Why is it necessary for American designers to go to Europe?

What is the matter with our fashion-creating domestic mills? They possess know-how and talent, have ingenuity, taste and immense physical resources. Why aren't these attributes being used to better advantage?

Is not this the moment for a revaluation of this most important phase of the fashion and fabric industries? Is it not time for all branches — merchants, as well as manufacturers and mills — to make serious effort to apply a remedy which can almost certainly result in increased volume? Is it not time for our mills to give high priority to this area of originality — the one area where profitable, rather than profitless, production can be a certainty?

END





HERE'S WHAT HAPPENED

... in the textile field during 1953

Textile highlights of 1953 compiled by Textile Editor George E. Linton

for readers who may be interested in reviewing

significant events in the field during the past twelve months.



January

Rep. Wickersham of Oklahoma introduced a bill in Congress to set 40 cents as the minimum level for the 1953 cotton crop, with adjustments for type, grade, staple, quality and location.

West Germany produced 36 million pair of Perlon hosiery in 1952, an amazing record when compared with their production of only 2 million pairs in 1950 and 15 million pairs in 1951.

Dr. Stephen J. Kennedy of the Office of the Quartermaster General was made an honorary member of the American Association of Textile Technologists.

Two of the oldest thread companies in America, J. & P. Coats, Inc. and Clark Thread Co., Inc., merged. The new company will be known as Coats & Clark, Inc., although they have been owned jointly for some time. The company is to erect a finishing plant in Toccoa, Georgia this year.

The CIO spent over \$900,000 for the period of one year, ending in September 1952, in attempts to organize the southern textile industry.

France, Spain and Austria received \$63 million from the Export-Import Bank of Washington for the purchase of American cotton in 1952. France received \$45 million; Spain, \$12 million; Austria, \$6 million.

The American Woolen Company closed two of its mills — Ayer, Mass., and Dover, N. H. It still had 18 mills in operation in New England.

C. W. Bendigo, American Cyanamid Company, stated that the textile industry in this country may become independent of imports of apparel wool by 1960. He predicted a great future for the man-made and synthetic fibers, especially the acrylics.

Spinnstoff Fabrik Berlin-Zehlendorf AG and E. I. du Pont de Nemours & Co., Inc., confirmed agreement on production methods in the manufacture of synthetic fibers to include filament yarn and bristles.

The Mutual Security Agency stated that the exports of cottons during the past year will have exceeded four million bales.

Japan made a new post-war record in raw silk in the last year. Almost 257,000 bales were produced, with 32,000 shipped to the United States.

The American Standards Association has approved flammability tests in which it was stated that "all fabrics for wearing apparel made of acetate, rayon and mixtures of these fibers must also meet the flammability requirements of clothing textiles."

American Upland cotton will be supported at 90% of parity price for this year's crop.

An Alabama plant announced it has weavers that are capable of running 24 W-3 looms on automobile fabrics. This compares with six looms per weaver in northern plants.

Allied Chemical & Dye Co. began work on a new nylon material plant in Hopewell, Va. This plant will make the raw materials for their nylon plant which is to be built near Bermuda Hundred, Chesterfield County, Va. The site covers 600 acres.

The 150,000 wool textile workers in Great Britain will receive wage rises from 70 cents to \$1.03 per week. This six-percent rise will be added to the \$21 rate for men and the \$11.84 rate for women. The rise is to be in effect for one year only.

The population of this country was 158,434,000, a rise of 2,684,000 over the figure of a year ago.



February

There were 31,611,000 sheep on farms in the United States as of this time. One year ago there were 32,088,000. The ten-year average is 41,427,000.

Courtaulds, Inc., opened their new rayon plant in Le Moyne, Mobile County, Ala. The company will produce more than 50 million pounds of viscose rayon staple annually. (please turn)

Textile Highlights of 1953 . . . continued

165 million dozen pairs of hosiery were sold in 1952, an all-time high record.

Du Pont licensed American Enka Corporation to make nylon, a similar arrangement as that made with Chemstrand Corporation in June, 1951. Both companies obtained rights to process from raw material to finished fiber.

Canadian mills marketed 245 million yards of fabrics in 1952, compared with 315 million yards in 1951.

N-53 acrylic fiber, to be used in blends, was announced by a plant in Holland.

The new Karl Mayer knitting machine operated at a speed of 900 courses per minute with recommended speed of 600 to 750 courses. The machine will be marketed by Alfred Hofman & Co.

Saranette was being featured by C. H. Masland & Sons Co. as an all-saran broadloom carpeting in which abrasion-resistance, durability, toughness and stain-resistance were outstanding.

Man-made fibers showed a loss of 7% below 1951, while non-cellulosic fibers had an increase in production of 24%.

The Cravenette Company announced its metallic reflective finish for application to lining or outerwear fabric which is also water-repellent.

Pittsburgh Plate Glass Co., entered the textile field by manufacturing continuous filament glass yarn in its Shelbyville, Indiana plant.

March



The present world use of wool exceeded the output. Estimates from England showed that eleven major manufacturing nations used 467 million pounds, clean basis, for the last quarter of 1952. U.S.A. was the leader, with 132 million pounds.

Du Pont began production of Dacron polyester fiber in its new \$40-million plant in Kinston, N.C.

U.S.D.A. announced its new flameproof product for use on cotton fabrics, *THPC*. Applied by the conventional methods, the fabrics showed excellent results and flameproofing qualities which lasted through 15 launderings.

Figures for 1952 show that 12½ billion yards of fabric were woven in the United States. Cotton represented 79% of the output; acetate and rayon accounted for 15%; woolsens and worsteds amounted to about the same in total production as the synthetic or non-cellulosic fibers, 3% each.

More than 2 billion 100 million yards of fabric carried the Sanforized label in '52, here and abroad, a 17% gain over '51.

Wool production in this country for 1952 was 265,973,000 pounds of shorn wool and 33,600,000 pounds of pulled wool. The yield from the shorn wool netted the growers almost 124 million dollars.

30.80 cents per pound, gross weight for the base grade of middling seven-eighths-inch cotton, will be the government cotton support price for 1953. Last year it was 30.91 cents.

Hartford Rayon Co., a subsidiary of Bigelow-Sanford Carpet Co., began operation in its modernized plant. Total production of the two units of the concern will be about 18 million pounds of rayon staple a year. Two denier counts will be made — 1.5-denier, 1½-inch bright, and 15-denier, 3½-inch delustered staple.

Courtaulds, Ltd., in their British plants, were producing about 25% of their output for use in blends with wool. The three fibers that will be used are Fibrolane, a protein base, Fibro, a rayon staple fiber, and Fibroceta, an acetate base fiber. British Celanese, Ltd., was also making acetate staple for blending with wool, while British Nylon Spinners, Ltd., was producing nylon for wool blends.

Almost 400 mills were knitting full-fashioned and seamless hosiery with 12-denier nylon yarn.

April



Rep. G. M. Rhodes of Pennsylvania introduced his bill 4083, which would bar from interstate commerce any goods manufactured by mills and factories in cities and other political subdivisions of states and leased to private firms. The bill's purpose was to reduce migration to the South.

The American Woolen Co. will shift to man-made fiber production and liquidate its woolen and worsted excess capacity.

Associated Spinners, Inc., reported that Dacron or nylon spun yarn can be stretched seven times its original length and return to shape.

On the basis of manufacturers' sales, the textile apparel industry ranked second in 1952. Sales totaled \$26,768 million compared with \$26,039 million in 1951. The only industry to exceed these figures was the food and kindred products — \$38,857 million in 1952 and \$38,217 in 1951. Considered separately, textiles ranked tenth and apparel eleventh in 1952.

Fourteen major New England plants lost \$152 per employee in 1952 while 25 comparable Southern companies earned \$341 per worker; thus, the latter earned \$493 more for each worker than the former. The difference amounted to 24.6 cents per hour based on a 2,000-hour work year. This came close to the wage and fringe benefit cost differentials which exist between the two areas. These facts were announced by Charles B. Rugg, counsel for the Fall River-New Bedford Associations at a meeting of Management and the TWUA of the C.I.O.

F. C. Huyck & Sons, Rensselaer, N.Y., celebrated the first anniversary of their acquisition of the oldest factory of woven industrial fabrics, Joseph Noone's Sons Co., Peterborough, N.H., a company that began operations in 1831.

May



The national support price for mohair, 1953-1954 marketing year, was 60.7 cents per pound. Last year it was 57.2 cents per pound. The Department of Agriculture announced support prices even though no support operations are expected.

The first bale of staple Dacron fiber made in du Pont's Kinston, N.C., plant was presented to President Eisenhower by Rep. Fountain of North Carolina.

Imperial Chemical Industries, Ltd. will build a plant in Millhaven, Ontario for the manufacture of Terylene polyester fiber, the British equivalent of Dacron. The cost will be twenty million.

India had 113 cotton mills, 112 jute mills, and 276 composite textile plants as of this period.

The largest single contract between a textile manufacturer and a garment producer was signed by Botany Mills and H. Daroff & Sons. A five-year agreement called for the production and sales of about \$75 million of woolen and worsted textiles. This relationship began in 1942 when the Daroff interests took over the well known *Botany 500* line of fabrics.

June



Cotton crop pests cost the cotton growers, in 1952, 927,000 bales of cotton and about 574,000 tons of cotton-seed. The boll weevil, pink bollworm and other pests destroyed almost \$290 million of fiber in the 16 major cotton growing states. This was, however, about \$1,000,000 less than the 1951 figure.

Celanese Corporation began production of a new ribbon-like acetate staple fiber never before made in this country, a 35-denier filament to be used for yarn blending in suitings and home furnishings. The product will come in various tow lengths.

North Carolina was producing more than 40% of all the

hosiery made in this country.

The first bale of 1953-54 cotton was auctioned for the benefit of charity on the New York Cotton Exchange. The 612-pound bale was sold for \$3.40 per pound, or \$2,081.

Total commercial stocks of clean wool were 205 million pounds in the last year.

Celanese Corporation, with the permanent closing of its plant in Staunton, Va., will terminate its weaving activities.

The dissolution of the I.G. Farben Trust will not affect successor companies which have arranged for the production of Perlon in other countries, Spain included. The lifting of the controls will mean a greater international market for Farben products, with increased competition to American patents.

Mexico terminated its export duties on textiles and clothing made there.

The Market Planning Service Division of the National Credit Office, Inc., revealed that 40% of women's wear items were cut from man-made and synthetic textiles in 1952.

The Corduroy Council of America was formed, with offices at 15 East 53rd St., New York City.

A slogan cannot be patented, according to a decision handed down by the U.S. Patent Office to Robert Hall Clothes, Inc. Application had been made for the slogan, "Why pay for overhead when you can't wear it?"

Silk and weighted silk products must be correctly labeled, according to a Federal Trade Commission announcement. The recent release by the Government of tin to dyers for the first time since World War II was the reason for the decree.

Japan, in its industrial comeback since the close of World War II, in 1952 produced over 260 million pounds of acetate and viscose staple, 6 million pounds of Vinyon, and one million pounds of nylon.

The Department of Agriculture sponsored a research contract with Clemson College on the treatment of cotton with strong caustic soda without tension to improve abrasion flex-resistance. \$30,000 was appropriated for the project.

It was announced that Perlon L and nylon, closely related filaments, can be distinguished by the use of 4.2 normal hydrochloric acid. The former is soluble in the bath at room temperature, while nylon requires some heating. Both give cloudy precipitates when water is added.

Clemson School of Textiles announced that it can make leno or doup constructions without the use of douns, the standard and skeleton heddle and harness arrangement necessary to make these weaves. The weaves are made from a dobby head arrangement on the loom.

Jacques Lesur, fabric designer and President of Tissages Lesur, France & Lesur, Inc., of America, told fabric buyers and designers in a talk in Atlanta that their insistence on 100% natural fiber content in fabric labeling was a mistake. He showed his point with cashmere which, he stated, was 150% better when combined with 10% nylon to prevent the threads from slipping in weaving.

July



The largest single use for cotton was sheets, consuming over half a million bales out of over 9 million bales. The apparel industry, as a single class used about 3 million bales, followed by the decorative fabrics field with 425,000 bales, and the bag industry with over 350,000 bales.

The total output of man-made and synthetic fibers, on a world production basis, totaled 3.9 billion pounds. Rayon was off 9%; acetate, 20%; the non-cellulosic fibers increased 24%. Current capacity was estimated at 5.6 billion pounds, of which rayon will contribute about 4.4 billion, acetate about $\frac{3}{4}$ billion, and the non-cellulosic fibers under $\frac{1}{2}$ billion pounds. By the end of 1954, world production should reach 6.4 billion pounds.

Teflon, the sixth man-made or synthetic fiber announced by du Pont, made its debut. Known as a tetrafluoroethylene polymer fiber, it will be used chiefly in filtration, gaskets, and pump packing. It has outstanding resistance to high frequencies and high temperatures, and possesses the highest degree of chemical inertness of any commercial plastic.

The finest count in Fiberglas fabric was made by Soule Mill, New Bedford, Mass. The material measures .001 inches in thickness and weighs .81 ounces per square yard. To be used chiefly in the electrical apparatus industry, the new fabric was the result of joint research by Soule and Owens Corning-Fiberglas.

The Federal Trade Commission was of the opinion that there is a definite need for legislation on the labeling of fiber content of man-made and synthetic products. A study of the possibilities will be made and a report given, probably during 1954.

In 1940 there were 345,000 tractors in operation on cotton farms. In the past year there were more than one million in use, a rise of about 200% in 12 years.

The value of Australian wool this season exceeded \$900 million, the second highest total on record, but only two-thirds of the banner year of 1950-51, when the total was \$1.4 billion. It was estimated that more than 3,800,000 bales were handled.

President Eisenhower signed the Flammable Fabrics Act of 1953; it will become effective in July 1954.

Textile workers averaged \$53.70 a week for a 39.2-hour week in the last two months. This was almost a \$3 a week increase over a year ago.

Cotton, along with nylon and rayon, was giving wool much competition in carpet manufacture. Tufted wool rugs with rubberized backs were selling for \$10 a yard, only a dollar more than cotton carpets. Lower-priced woolen rugs were being pushed to combat the inroads made by the cotton competition.

Pepperell Mfg. Co. introduced all-nylon fitted sheets with matching pillowcases. They weigh less than half of cotton sheets, are easy to launder, dry quickly, require no ironing, and are easily stored.

Sixty different constructions in broad glass fabric were being made for industrial and consumer use.

Springs Mills was now producing 8 million yards of woven goods a week. Their new finishing plant at Grace, S.C., was finishing goods at the rate of a million yards a day.

Latest figures showed that the U.S.A. leads the world in cotton, woolen and other woven fabrics. The breakdown follows:

COTTON CLOTH		WOOLEN CLOTH	
U.S.A.:	9 billion yards	U.S.A.:	415 million square yards
India:	4½ billion yards	France:	385,000 million yards
Japan:	2¼ billion yards	Britain:	370,000 million yards

WOVEN SYNTHETICS

U.S.A.: 2 billion yards.

Japan: 750 million yards.

The per capita consumption for all textile fibers was revealed as follows:

U.S.A.:	42.2 pounds	Switzerland:	26.2 pounds
Canada:	30.0	New Zealand:	25.3
Australia:	29.0	Denmark:	24.4
Sweden:	28.6	Norway:	23.8
United Kingdom:	27.3	Netherlands:	22.0

There were 48 nations whose per capita consumption was less than ten pounds. Included in this group were the countries of Asia, Africa, Central and South America (except for Argentina, Cuba, and Uruguay), and significant areas of southern and eastern Europe.

(please turn)

Textile Highlights of 1953 . . . continued



August

World wool production this year will set a new record of 4,330 million pounds in the grease, an increase of 40 million pounds over 1952. Clean yield will total about 25 billion pounds.

Consumption of man-made and synthetic fibers increased four-fold from 1937 to 1951, according to the latest figures of the Textile Economics Bureau. Consumption of 993 million pounds in 1951 compared with an increase of 669 million pounds, or 15%, for the other fibers — cotton, wool, linen and silk. Thus, total end-use fiber consumption rose 1,662,000,000 lbs., or 35%, as compared with a population increase of 20%.

Nylon was being used to produce 75% of the press cloths and nets for laundry practice, the balance being cotton. The cost of these nylon products, though higher than cotton, is offset by longer service.

Cashmere or wool blended with nylon must be labeled accordingly. H. H. Hannah, Chief, Division of Wool and Fur labeling, stated that the only tolerances allowed are those coming from unavoidable variations in manufacture despite all efforts to keep within the ruling. The 5% rule on ornamentation is not applicable when nylon is added for other than decorative purposes.

Roy A. Cheney, President of the Underwear Institute warned that advertisements which claim knitgoods to be absolutely shrink-proof are fraudulent. There was no measure at present for knitgoods shrinkage, he stated.

Dr. J. B. Quig, Manager of the Textile Research Division of du Pont, stated that there was no simple blending formula for fabric performance. Fabric construction, yarn twist, ply and finishing treatments made it impossible to predict a correct minimum blend to guarantee specific terminal-use properties. Up to the present, Dr. Quig said, each fabric construction must be tested for the proposed end-use to determine suitability.

Reeves Brothers announced their wrinkle-resistant finish for cotton. To be known as *Facility*, it provides a higher angle of crease-recovery than most finishes, and control-shrinkage, within the maximum of 1%, will resist as many as 20 home launderings.

The Textile Economics Bureau reported that man-made and synthetic fibers in industrial fabrics rose by 412 million pounds from 1937 to 1951, an increase of almost 3,000%. This compared with a loss of 151 million pounds, or 12%, for other fibers in the same period. In men's and boys' wear, during the same period, there was an increase of 11 million pounds, a gain of 326%. This compared with a 99 million-pound gain for all other fibers, a 10% rise.

Dr. Compton, technical director of the Institute of Textile Technology, Charlottesville, Va., announced T-7, a new group of fibers derived from cotton by reaction with acrylonitrile, a cyanoethylation action.

The new 12-denier nylon stockings were occupying second place in the hosiery field, surpassed only by 15-denier hosiery. This phenomenal position was taken after a four-months period since the stockings were placed on the market.

William J. Erwin became president and treasurer of Dan River Mills, Inc. He was formerly with Riegel Textile Corporation as vice-president.



September

The old Harris Mill, founded in 1803 in the Pawtucket Valley of Rhode Island, closed its doors, chiefly because of the price differential of five cents per yard on book cloth between the North and South.

The Armed Services Textile and Apparel Procurement Agency, (ASTAPA) wound up its activities since the coordinated procurement program of the Army, Navy and Marine Corps became effective last November 1st. With the exception of canvas, duck and webbing, each branch of the service will purchase its own equipment. The reasons for the change include a more orderly entry into markets, elimination of competition among the services in buying, and the utilization of excess of one

service to meet the requirements of another, when practicable.

The 54-year-old George Mabbet & Sons Company, Plymouth, Mass., plant was sold by the Mabbet family to one of New England's leading industrialists, Bernard Goldfine.

Du Pont's *Tynex* trademark will be applied only to the company's nylon monofilament made by their poly-chemicals department.

Cotton products advertisers in this country spent more than \$17 million in magazine advertising alone. This did not include sums spent in local papers. The National Cotton Council stated that the losses incurred in industrial fabrics were offset by gains in fabrics for wearing apparel and household uses.

Crompton & Knowles Loom Works built a 600-inch felt loom, one of the largest on record, for the Albany Felt Co. of Canada. The parent company in Albany, N.Y., has two similar looms.

John P. Maguire & Co., and other Eastern financial interests purchased the well-known Fieldcrest Mills of North Carolina and Virginia. Formerly owned by Marshall Field & Co., Fieldcrest operates nine plants in the southern areas mentioned. Its man-made and synthetic fiber grey goods will continue to be sold through mill selling agents.

Dacron ironer covers showed an average of better than 90 days' service in commercial laundries compared with about 8 days' service for the conventional fiber type covers.



October

Prices paid in Melbourne, Australia for merino lamb's wool broke the world's record at the closing session of the Geelong sales. One bale brought 490.25 pence (\$5.25) a pound, breaking the mark set earlier in the month by 59.25 pence.

Burlington Mills celebrated its thirtieth anniversary.

Edwin Wilkinson, Executive Vice-President, National Association of Woolen Manufacturers, stated that the second industrial revolution in textiles is here. He emphasized that textile thinking must be in terms of the over-all textile fiber demand instead of the individual fiber. In a talk given in Charlotte, N.C., Mr. Wilkinson said that the South has developed rapidly in recent years because it has not been inhibited by outworn methods and habits.

Vicara, the zein fiber of Virginia-Carolina Chemical Co., began production of a highly crimped staple that comes bleached or unbleached.

World cotton consumption hit a new post-war peak during the first half of 1953, with a growth of all types of staple totaling 17,372,000 bales.

According to the National Association of Hosiery Manufacturers, the infant population of this country is running well ahead of hosiery production. In one recent month the industry sold 4½ million more pairs of children's and infants' socks than were produced.

United Merchants and Manufacturers absorbed A. D. Juilliard & Co., on the basis of 6½ shares of the latter's stock for one of U.M.&M.

Terephthalic acid, the basic chemical used for Dacron and Terylene, was now being produced by a new and cheaper method, combining it with a synthetic glycol to produce the polyester fibers. This German method may, in due time, cause a price drop of these new synthetics.

A new system will be proposed in classing grease wool wherein the staple lengths will be designated in inches for each grade. Discussions and modifications will soon be under way.

Production workers in the textile industry numbered more than 1,100,000.

Hess, Goldsmith & Co., Inc., purchased the weaving plant and some of the equipment of the Goodman & Theise mill in Taylor, Pa. The expansion in woven glass fabrics by Hess, Goldsmith necessitated another plant at this time. Goodman & Theise will merge and improve its facilities for worsteds, silk and synthetic fabrics in their recently purchased Rhode Island Worsteds Mills in Stafford Springs, Conn.

Miss Irene Blunt, secretary-treasurer of the National Federation of Textiles, was honored by the textile industry at the 80th birthday celebration of the Federation at the Waldorf-Astoria Hotel. 1200 persons were present when Miss Blunt was presented with a gold bracelet by William N. Chace, vice-president of Greenwood Mills, Inc. Mr. Chace cited her "uncommon professional ability, loyalty, integrity and personal charm."



November

The Northern Textile Association and the National Association of Cotton Manufacturers stated that wages in this country in the textile industries were from 200% to 1200% higher than in the major foreign textile manufacturing areas; hence the interest in a resolution that calls for tariffs to protect the American textile industry from unemployment and harm caused by the low wages of foreign competition.

J. S. Press, Naval Clothing Depot, Brooklyn, N.Y., perfected a pilling tester that has met with wide acclaim. It will be used in research and development of uniforms for the navy.

President Eisenhower rejected the request for an 80% rise in tariffs on wool fabric imports. The plea was made by the National Association of Wool Manufacturers.

The National Association of Hosiery Manufacturers announced that ten pairs of stockings are needed by American women to dress well because of the trend to color coordination.

Mooreville Mills announced that the use of metallic thread in men's apparel is now a definite style trend with Lurex metallic yarns providing the *golden touch* to well-dressed men.

Cotton ginnings for the 1953 season prior to October 18 amounted to 8¾ million running bales, a slight rise over the previous season.

The Textile Distributors Institute advocated the setting-up of a Man-made Fiber Council to be underwritten by a tax placed on yarn at the time of sale to the fabricators. The plan is to increase consumer acceptance of man-made and synthetic fibers.

Man-made fiber consumption reached a new high of 1.6 billion pounds this year, with about 1.3 billion pounds represented by acetate and rayon.

Pilgrim Piece Dye Works, Brooklyn, N.Y., one of the largest and oldest dye plants in the industry, decided to close down the plant. Well-known for its work on silk and man-made fibers, the plant had a full-time capacity of 100,000 yards a day.

Duplan Corporation, Hazelton, Pa., one of the old-time textile concerns in this country, was sold to Food Fair Stores of Philadelphia. Duplan, however, will keep over 100,000 square feet of floor space for its Jacquard Sample Department.

The Southern Textile Association reported that the cotton industry in 1952 showed a net profit of only 2.47% on sales.

Charles H. Rutledge of du Pont stated that the largest gains in man-made fibers is being made in industrial uses. He pointed out that end-use consumption from 1937 to 1951 increased almost one billion pounds.

U.S. Rubber Company was making tires with the new Super Cordura tire yarn made by du Pont. This new extra-tread truck tire is claimed to be 20% stronger than the regulation rayon cord used in tires.

Aquex Development & Sales Corp. discovered a new catalyst which makes possible completely washable Bemburg cuprammonium fabrics and blends of equal parts of viscose and acetate. Crease-resistance, light-fastness, and water-repellency factors are improved by the use of the catalyst known as *Initiator RES*.

Union circles in the textile industry learned that Mr. Louis Conn, a union organizer for the CIO and later for the AFL, who spent much time and effort in trying to organize southern textile workers, is now back in newspaper work. George Baldanzi, well-known labor figure, will be leaving the UTW to help the teamsters form a new waterfront union.

Prof. J. B. Speakman, Textile Dean at Leeds University, announced that it is not possible to produce woolen printed fabrics

as bright as cottons. His announcement came after much research on the subject.

American Viscose introduced a new rayon carpet staple fiber that resists soiling. Called *Tufton*, it is insensitive to oil wicking from jute backing yarns. Tufton can control the reflectivity of the carpet fiber through the use of delustrants or reflection surfaces which are spun into the fiber.

One of the largest homecoming dinners was accorded Robert T. Stevens, Secretary of the Army, at the Hotel Astor, on November 9th. Over 1,600 persons were present to pay homage to Mr. Stevens who is a member of the venerable Stevens family of New England, and formerly of the J. P. Stevens Company.

Reactivation of the New York Quartermaster Purchasing Agency, at 111 East 16th St., was announced. It will be under the direction of Brig. General R. P. Hollis.

Merger of General Dyestuff Corp with General Aniline & Film Corp. was approved by Attorney General Brownell. General Dyestuff, owned and controlled by the U.S. Government, and General Aniline, owned 98% by the Government, were seized during World War II under the Trading with the Enemy Act.



December

Plans were in the initial stage for a building or hall for textile trade organization meetings in New York City. Trade organizations in all phases of the industry, textile associations, alumni associations, and out-of-town mill men will likely become interested in the proposed project, a definite must for the trade to further its prestige.

The Treasury Department reported that 5,794 mills produced almost 13 billion dollars in gross sales for 1950. Profit after taxes totalled over \$700 million, and dividends were about \$250 million in cash and assets other than stock. Stock of corporations amounted to \$30 million.

Glen Raven Mills introduced nylon tricot in fitted sheets.

Christian Dior predicted that clothes made of the new fibers would be seen in future fashion showings in Paris, beginning with the collections to be shown next spring.

Metlon Corporation brought out Permagold, a new metallic yarn to be woven with synthetic fibers for automobile fabrics.

Hess, Goldsmith & Co., the leading weavers of Fiberglas, stated that present prices on broad fabrics have been reduced 27% because of improvements in techniques, facilities, and productive capacity.

Textron, Inc. closed its Blackstone plant, and it was reported that it will sell its Lowell plant, both of which are in Massachusetts. The only remaining plant of the company in New England will be the nylon tricot unit at East Greenwich, R. I.

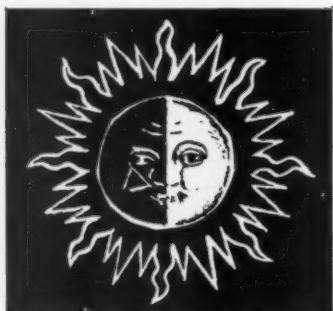
The 100th Anniversary of the Textile Industry in Worth Street will be celebrated in 1954, along with the 300th anniversary of the City of New York, and the 200th anniversary of Columbia University in the City of New York.

In connection with the 100th Anniversary of the Textile Industry in Worth Street, Frank L. Walton, President of the Worth Street Historical Society, has written *Tomahawks to Textiles, The Fabulous Story of Worth Street*. The book covers the major highlights in the rise of Worth Street.

One of the best textile presentations of the year was given by Mr. Ephraim Freedman, Director, Bureau of Standards, R. H. Macy Co., before the American Association for Textile Technology, Inc. Entitled *Man-made Fibers as Appraised by Retailers and Consumers*, the study and survey made by Mr. Freedman should be particularly enlightening to fiber and fabric, finishing and fashion groups.

Carl Setterstrom, General Manager, Textile Fibers Department, Union Carbide and Carbon Corp., at a meeting of the Upholstery and Drapery Fabric Manufacturers Association, opposed the idea of forming a man-made fiber council to represent the entire industry because of the vast differences in the properties of the fibers involved and in the ideas of the firms which might possibly support the plan.

END



More about the Weather

*A manufacturer writes a timely letter
on a timely subject.*

I AM A MANUFACTURER of medium-priced apparel who has been in the unusual position of functioning in both the men's and women's end of the business and who has been a subscriber to your publication ever since its first issue. Frequently I have been struck by the forward thinking shown in its pages.

At this time I would like to call your attention to an article in your first issue (I keep a file of all my copies) which was headed *Lighter-Weight Clothing*. I read this again last night just after I had finished William Baxter's recently published book on *Today's Revolution in Weather*. I could not help being impressed by the facts with which we in the apparel industries have long been faced. There is no doubt, despite the mid-January cold wave, that a revolution in weather has been in the making. We have attributed certain developments, such as the rise to popularity of sports and lighterweight clothing, to the greater leisure time our country enjoys. Nevertheless, it seems that we have not given sufficient credit to another fundamental cause — the change in weather. This is what Mr. Baxter writes about with clarity and insight. His argument — and it is one which many observers will go along with — is that the weather has been getting consistently warmer in almost every part of these United States.

What does that mean to us as manufacturers, and to our customers, the retailers, and to our suppliers, the textile people? It all adds up to the necessity of styling our lines with this in mind. The textile people must gear their production to lighterweight fabrics that are most suitable to our markets.

THERE IS NO USE kidding ourselves, says Mr. Baxter. The old-fashioned winters with their snows which used to inundate city and country are not going to come back. It is not likely that men will ever get back to the very heavy overcoats or the red flannel underwear or the 15-ounce suits.

I remember very distinctly that your article on lighterweight clothing of almost a decade ago spoke of the fact that a few men were beginning to wear tropical worsted tuxedos all year round. At that time this seemed a little fantastic. Men were accustomed to buying fall suits, spring suits, topcoats, winterweights, etc. Today many men of my acquaintance wear the same very lightweight 9- to 10-ounce suits all year and I would wager that a great percentage of year-round tuxedos sold are tropical weight. The warmer weather has affected and will affect all the accessories that people wear and the fabrics that go into these accessories.

How many of your readers will recall the great controversy that raged in the men's business some fourteen or fifteen years ago when, in a moving picture sequence, Clark Gable took off his shirt and revealed that he wore no undershirt. This set off a responsive note throughout the country that spelled the doom of an industry. Now, I believe that this could not have happened unless climatic conditions were such that it made

EDITORS' NOTE: If you have missed our own editorial on the weather, please turn back to page 45.

acceptable this suggestion of going without. And to my mind the change in bathing costumes for both men and women — briefer and briefer — is not only a fashion development, but is fashion-dictated by warmer and more lengthy periods of sunshine. Ditto the decline in the demand for heavy flannel slacks and the tremendous gain made in lightweights in army twill types, etc.; the abandonment of heavy shoes, hatlessness, and the precipitate drop in muffler business . . . and on the other side of the picture, more and more popularity for lightweight sportswear, brief-type undershorts, open sandals.

I KNOW FOR MYSELF, as a consumer, that I have been buying suits and sportswear of lighter and lighter weight materials; I want hats and shoes and socks that are less bulky and heavy in weight than when I was a young man starting out in business. And, as most of the past so-called winter has proved, I have had little use for a heavy overcoat. I am no longer a young man, and I am a man who likes to be comfortable and warm. My wife, too, is in almost the same position as regards apparel. She finds fewer and fewer occasions to wear the fur coats she has bought. Her winter coat is of a lighterweight material than ever before, and all her apparel quite sensibly seems to be getting lighter and lighter in weight. We can say the same about the clothing of our children. And I wager that your readers will find the same situation in their own families.

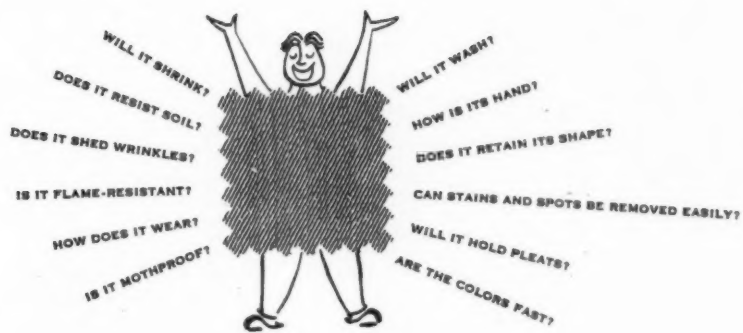
Coming specifically to the textile and apparel manufacturing businesses, isn't it a fact that we find the most successful cloths and fashions are the ones that have emphasized lighter construction? What has made corduroy a greater favorite is the fact that the corduroy people have been able to develop lighter weights. What has made cottons so popular for all-year-round wear? Surely not entirely the great styling job that has been done, but the fact of the weather. Why are the wool people in the dumps at the moment? Again, it is my belief that they have styled cloths too heavy for the change in weather. And what has been one of the chief appeals and attractions of the new fibers? Surely, the fact that they are light, pliable and more adaptable to the climatic conditions of our country.

I bring these points out believing that they touch on a situation which is very broad and which can have great implications for our industry. Does not the situation call for a study by the fashion industries, with findings and recommendations by an organization such as yourselves, or by the textile industry, to pin down the steps to take which could be of help to us all in the future? An analysis of the changing weather situation, with recommendations of a specific nature on what can be done by AMERICAN FABRICS, should prove a tremendous service to the industry. I would be interested in your own and your readers' reactions.

Sincerely,

J. A. L.

modern finishes



If you haven't a fine modern finish, you haven't a fine modern fabric.



THE EARTH. The surface of the earth is ideally suited to the conditions of life on this planet—movement, growth, adjustment. Its waters are reservoirs of energy, carrying nutrition to organic growths. Sod and forests maintain a temperature equilibrium over its skin areas, repair its fissures, and transform its chemicals into organic tissues. The crust of vegetation beautifies, protects and enriches the earth, and organic life as a whole seems to play its part in the great cosmic game that goes on in the universe.



ANIMALS. Furs and hides have evolved as rugged skins, capable of protecting animal bodies from the effects of extreme cold, rain, snow and ice, and the claws, fangs and physical attacks of other animals. They are Nature's equivalent of tough industrial fabrics—resistant to tearing and ripping, and effective insulation against heat losses. Elephant and crocodile hides can resist the impact of all but the most powerfully propelled bullets. The skins and hides of many animals are masterpieces of functional texturing and beautiful colorings.



FRUIT. Fruit skins are permeable envelopes which breathe. They retain the juices and meat of the fruit, permitting only the controlled amount of evaporation which is part of the process of ripening. Regulated by a growth mechanism of their own, they open or break at the time of the fruit's maturity, enabling the seeds to be scattered to the winds, or to be transported to distant places by birds and other carriers. They have been dyed by Nature, the supreme colorist, in shades and hues that are unsurpassable. Their textures vary from the soft downy bloom of the peach to the smooth and brilliant surface of the pomegranate. Their variety of texture and hand can serve as a never-ending source of inspiration to man's work.



MAN'S SKIN. Man's skin, like the earth's crust, provides a surface which protects its organic parts and adapts itself to all the exigencies of experience. Water-proof, dirt-proof, pliable, and beautiful, it expands and contracts according to the needs of the body. A self-repairing and self-cleansing surface, the skin sloughs off stains and dirt marks, reweaves its tears, burns and nicks, and protects itself while protecting the body areas it envelops. Truly it is an example of Nature's perfect finish.



BIRDS. The feather and down covering of birds is one of Nature's most extraordinary inventions. It employs the principle of the thermostat for warmth, the cantilever for strength, and the aerofoil section for flight. It combines the napped fabric, the brushed fabric, and the water-repellent fabric in one covering which possesses a renewable finish of oils exuded from the skin. Lastly, it embodies a continuous change of denier according to the needs, functions and wear of each part of the surface area.



VEGETABLES. Of all of Nature's enveloping membranes, vegetable sheaths are perhaps the most useful to man. For these epidermal coverings are as nutritive as they are protective. As gaseous exchange membranes, they enable plants to extract nitrogen from the air and to eliminate carbon dioxide; in performing this and other related processes in the presence of sunlight, they manufacture chlorophyll and the starches which are essential to the preservation of animal life. Vegetable skins are the synthesizers of life-sustaining foods and are themselves edible, thus serving a dual function as chemical plant and fodder. Tough or tender, glazed or soft, textured or smooth, here again Nature adapts surface to function.

After several billion years of trial and error, Nature has developed perfect, durable, and functional surfaces for all of her creations. These possess, in addition, one miraculous quality not so far achieved by man in all his finishing techniques: all her surfaces are self-maintaining and self-renewing.

SOME FUNDAMENTALS OF MODERN FINISHING IV

It is no mere pun that far from being the finale of a fabric, the finishing process marks its birth.

MERCERIZING VII

The luster imparted by this classic process today gives appeal to a large group of cotton fabrics.

DYEING VIII

The heart of the finishing process brings more zest to fabrics and fashions of many categories.

TEXTILE PRINTING X

The combination of art and technology is bringing a new look to many established and favorite fabrics.

WATER-REPELLENTS XII

The history and development of an important group to which new techniques are making contributions.

WEATHER-CONTROL FINISHES XIII

Linings with a built-in thermal barrier lengthen the wearing season of many garments.

TEXTURIZING — THE PRE-RESIN PERIOD XIV

A brief review of processes which beautify the texture of a fabric and endow it with distinction.

TEXTURIZING — THE RESIN REVOLUTION XV

The miraculous transformation of fabrics by synthetic resins is making fashion and fabric history.

FIRE-RETARDANT FINISHES XVIII

With the Flammable Fabrics Act going into effect next July, these finishes have special importance.

GUIDE TO SOME WELL-KNOWN FINISHES XIX

Definitions and descriptive terms especially compiled by the Editors of AMERICAN FABRICS.

SHRINKAGE-CONTROL XXIV

The consumer expects his garments to come back from the laundry the same size as they went . . . a look into this important field.

WARP-KNIT FINISHING XXVII

Controlling the uncontrollable — the achieving of dimensional stability in tricots and warp-knits is becoming comparable with that in woven goods.

WRINKLE-RESISTANT FINISHES XXVIII

Newsmaking events in the field of wrinkle-resistant finishes . . . the determined war against wrinkles.

ECONOMICS OF FINISHING XXX

How to get rich and famous, or vice-versa.

TRUE OR FALSE? XXXI

A quiz on facts of textile finishing.

COPYRIGHT 1954 AMERICAN FABRICS. ALL RIGHTS RESERVED.

**If you haven't a fine modern finish,
you haven't a fine modern fabric.**

Some Fundamentals of Modern Finishing

a Few Facts
as well as
a Little Philosophy

Far from being the finale, the finishing of a fabric marks the occasion of its birth. This is no mere pun. It is a fundamental fact. For until the various finishing processes are completed, the fabric, as the consumer knows it, simply does not exist. Until it is finished, a fabric is inert, limp and lifeless. It possesses no entity. Even those materials which have had their colors applied in the yarn require finishing in order to bring these colors to life; and a piece of grey goods is literally nothing at all until the various final operations are completed.

The term *finish* or *finishes* is one of the most unfortunate in the entire textile dictionary. It certainly confuses the consumer and positively does nothing to advance the cause of clear textile thinking. Unfortunately, too, it is customary to speak of the finish in the singular, whereas there is no such thing. The poorest fabric requires far more than one ultimate process before the initial samples are shown. Serious efforts have been made to refer to the *processing* rather than the *finishing* of fabrics, but when you say processing you get fouled up with *preliminary* processing. Attempts to find a better name have simply not come off. It looks as if we might as well reconcile ourselves to the word *finish*.

How hopelessly inadequate this small word *finish* is for the magnitude of the subject. To get a quick grasp of what is involved, all you have to do is to stop and realize that there are today over 500 trademarked and branded finishes on the market. When you get into the variations of many of these processes and then begin to take inventory of the unbranded finishes, you begin to talk in terms of something approaching astronomical statistics.

A few years ago, as recently as pre-Pearl Harbor days, the average well-informed individual in the textile industry could give you a pretty good idea of practically every finishing process in use. Today we are rapidly getting to the point where the outstanding experts can hope to know only their particular specialty.

There is just one practical way for the user of textiles to get a practical, workable grasp of the subject, and that is to break it down into natural classifications. To do so it is necessary to think not merely of the nature of each particular process but also its purpose in the life of the fabric.

Following this line of thought, we start naturally with what you might call the *basic* finishes. These are the finishes that have been applied, in some

form or other, since time immemorial — the finishes without which a fabric simply could not exist. The roster of these fundamental finishes includes bleaching, mercerizing or other yarn processing, singeing, dyeing or printing, some sort of stabilizing treatment, the final calendering and *prettying up*.

It would be a grave mistake to think of these classical, basic finishing processes as closed issues. You could hardly get further off the beam. You have only to acquaint yourself with a few of the problems involved in the development of new dyes for new fibers and blends to get a perspective.

Another great group of finishes can be aptly described as the *texturizing* finishes. These are the finishes that give a cloth a glazed surface or pucker it up into plissés or brush it to make flannelettes and suedes. Some of these texturizing procedures, such as those employed to make brushed or crinkled fabrics, are by way of becoming venerable. Some, like the process known as *flocking*, to simulate embroidered or clipped figures, are recent revivals.

There is a whole host of others which are so new that many of them are still in process of evaluation, or at least of finding their proper place in the American wardrobe and the American home. But many of the texturizing finishes are already firm fixtures. Certainly, if you are not acquainted with them you do not know much about fabrics today.

By now the astute reader must have wondered why nothing has been said so far about the *functional* finishes. These are the finishes that make a piece of cloth resist rain and wrinkles, moth and mildew, shrinking and stretching; the finishes that correct fabric faults inherent in the fiber.

Here again some date way back. The Cravenette water-repellent process, the oldest trademarked finish of national, or rather international, stature, has reached the biblical age of three score years and

ten. The Sanforized trademark will be celebrating its 25th anniversary in 1955. The great majority of the functional finishes, however, are no more than ten years old.

Even so their effect has indeed been profound. They have changed the whole attitude of the consuming public. Just as people refused to accept fugitive colors after vat dyes were introduced, and fabrics that shrink after they became acquainted with Sanforized, so now they are beginning to put thumbs down on draperies that are not flame-resistant, outer garments that are not water-repellent, knitted fabrics that lack stability, wearing apparel that is not fortified against wrinkling, spotting and staining. Already the pressure brought to bear has given rise to the feeling which has sprung up in the trade that *finish has become a fetish*.

The thought is more accurately expressed in the basic thesis of the current exposition of this subject by AMERICAN FABRICS: namely,

If you haven't a fine Modern Finish, you haven't a fine Modern Fabric.

This emphatically includes those finishes which do nothing more than give a cloth a beauty treatment. Let us not tend to be patronizing on the subject of beauty treatment. Remember that the whole American standard of living is irrevocably committed to beauty and style. If lawn mowers and egg beaters are spruced up, can fabrics be far behind? Hence the enormous box office success of those sculptured and moired finishes, not to mention others that make a silk purse out of a sow's ear.

To make the subject even more complicated, a good many finishes have more than one purpose and fulfill more than one function. The most conspicuous case in point is the type of wrinkle-resistant resin treatment which makes a fabric spot-resistant as well. These finishes alone have opened up a brand new chapter in textile history — one that will take many pages and many years to write.

What's back of it all? Why the sudden spurt in finishes during the last ten years? What is respon-

sible for the intricate and highly specialized technical developments that are making fabrics defy the laws of wear and tear, wind and weather?

To start with, there is the urge to conquer the old fabric faults, such as tendencies to wrinkle or shrink or lose shape. This urge has recently been aided and abetted by the competitive necessity of fortifying the old natural fibers with some of the new and highly publicized characteristics of man-made fibers, especially the more recent aspirants for popular favor.

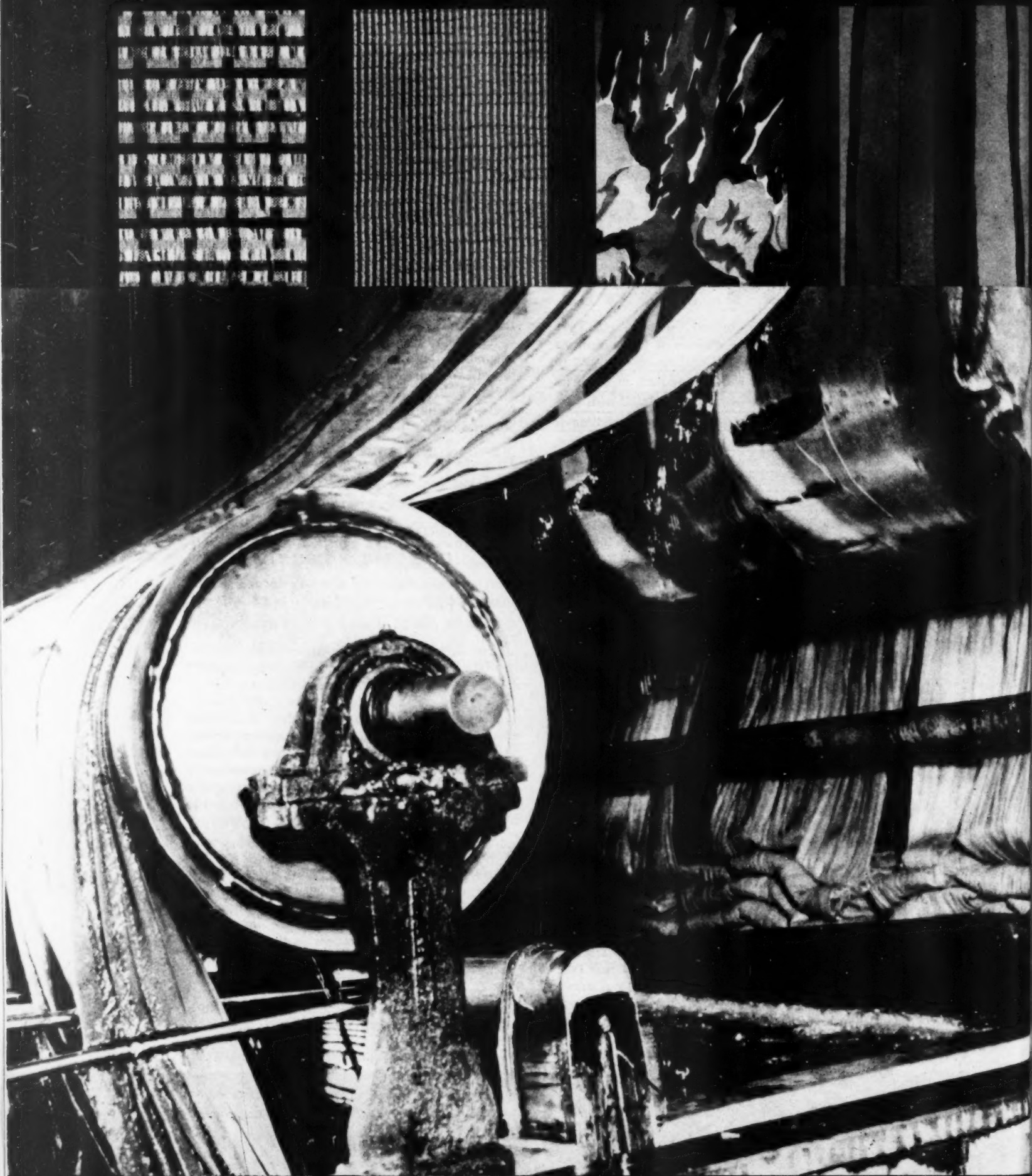
To understand what is going on, however, one must get beyond mere textile terms into the social and economic implications. The plain facts of the case are that fabrics finished in old-fashioned ways would not do for new-fashioned living. Until very recently many fabrics were predicated upon the grand old institution known as the family laundry. When there were plenty of wash women to handle the family wash and give each different material the special care required, it was not necessary to fortify them with special finishes.

It's an entirely different story today. If a fabric cannot withstand the rigors of the commercial laundries or the washing machine, it's an anachronism — for there is just no one in the house nowadays to tend fancy fabrics. In other words, many of the recent finishes have been brought into prominence by the tempo of the times.

Who can refrain from using the abused word *fabulous* in connection with the subject of finishing? And is it not a plain and obvious fact that many of the new finishes are just as much entitled to be called textile miracles as the new man-made fibers? How else can you do justice to finishes that correct the natural tendencies of cotton to wrinkle and wool to shrink . . . or processes that give a dozen different textures to an ordinary sheeting or an eight square? You are embarking on a real textile adventure when you take up the subject of modern fabric finishes.



LABORATORY JOSEPH BANCROFT & SONS

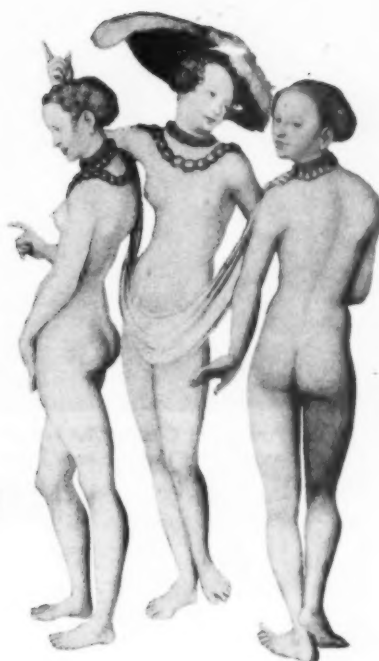


Behind a host of finishing processes of the most complex nature lie all the combined skills of the great chemical industries of America.

Mercerizing



It's the glint that gets 'em



One of the finishes that is seldom accorded the recognition it merits is mercerizing. It is mercerizing that puts the characteristic silken luster into a great group of cotton fabrics ranging from fine broadcloth shirtings to heavy army twills and sateens. Without the glossy sheen imparted by mercerizing, these famous fabrics would lose greatly in stature. It's their luster, more than any other quality, which gives many a broadcloth and gabardine their primary appeal.

The process of mercerizing is named after John Mercer, a great English scientist and chemist, who did much to advance the finishing of cotton fabrics. It was Mercer whose observations in 1844 first suggested the use of caustic soda for obtaining cottons of improved strength and dyeing properties. The discovery of permanent luster did not come until more than fifty years later. It was not until 1889 that H. Lowe developed and patented the technique of producing a permanent luster as the result of treating cotton yarns and fabrics under tension with caustic soda.

The microscope shows that mercerizing makes changes in cotton fibers. Before mercerizing, the individual cotton fiber looks somewhat crinkly, like a deflated length of hose, sunk in the center. When subjected to tension and treated with caustic soda, the individual cotton fiber loses a good deal of its natural twist and becomes round, more like an inflated hose. In its final full mercerized form, the individual cotton fiber looks very much like the silk fiber, and this is generally assumed to be the explanation of the unique luster imparted by the mercerization process.

There are two entirely different kinds of mercerization. The first is not a finishing process at all, but has to do with mercerizing in the yarn. The famous nationally advertised sewing threads, as

well as Durene yarns, owe their characteristic luster to mercerization.

Mercerizing in the piece is something else again. This is distinctly a finishing process, employed to lusterize broadcloths, gabardines, twills, sateens, and many other fabrics. It's important to note, however, that surface sheen is by no means the only quality imparted through mercerization. There are other important results—increased strength, greater uniformity, more cylindrical diameter, better affinity for dye stuffs with a substantial reduction in the amount of dyes needed.

There are many degrees of mercerization. All fabrics do not require the high luster of broadcloth for dress shirts. In the case of outerwear, for example, a much more subdued luster is frequently favored. It takes long experience, sure technique, and precision control to produce the desired results for each type of fabric. Again and again when the samples of leading lines of fabrics are compared in buying offices, it is the presence or absence of luster in the right degree for the particular end use that makes or breaks a sale. Many a finishing plant bases a large part of its solicitation of new business on its reputation as a mercerizer. Any way you look at it, there's no doubt that Mr. Mercer started something way back in 1844.



THE APPEAL OF COLOR: The reproduction in monochrome and in full color of Gauguin's famous Tahitian picture NEVERMORE (in the Courtauld Collection, London) shows the importance of color harmony in creating appeal.

Dyeing

the dye house is the heart of the finishing plant

Amidst the aromatic fumes and vapors that arise from steaming dye baths you will find a domain known as the dye house. Here the heat and humidity can be almost tropical. Curiously enough, it is generally called a *house*, even when it is not physically separated from the rest of the finishing plant.

How important is color in textiles? To start with, it should be noted that people don't wear grey goods. Nor do they decorate their houses with grey fabrics. The first thing that a customer observes is the color of the cloth, and it is generally the thing best remembered about the fabric.

What an amazingly difficult and complicated subject! It is a little appalling just to think of all the vats, sulphurs, anilines, acetates, pigments, naph-

thols and the host of dyes for new fibers. Before delving into the subject, you must set aside all stock-dyed, yarn-dyed and solution-dyed fabrics. These are part of preliminary procedures, whereas we are concerned with the kind of dyeing that is a finishing process — either by printing or by piece-dyeing.

As is often true of textiles, the subject turns out to be anything but cut and dried. The chemist is still a long, long way from solving the innumerable



The three swatches shown here serve to illustrate three important successive phases in the dyeing and finishing operation on a typical fabric. At left is a cotton twill in the greige state as it comes from the loom. In order to obtain perfect color in the subsequent dyeing stage the fabric is then bleached to a pure white, the bleached goods in this phase being shown by the first swatch at right. On the extreme right is the finished fabric after dyeing with CIBANONE light- and wash-fast vat dye in *kelly green* from the Dyestuffs Division, CIBA CO. INC., by NORTH CAROLINA FINISHING CO.

color problems of the modern fabric world. Every new fiber and every new blend calls for a corresponding new development in dyeing.

It so happens that these new problems do not solve themselves. For example, have you noticed all the white and grey as well as white and tan suits worn by both men and women? Have you wondered why other colors are not used?

Let us give you a little clue. Some of the new miracle fibers present serious dyeing difficulties that the best technical brains of the entire country have not yet been able fully to surmount. Until this is achieved the only practical way to utilize these new fibers for suitings is to blend them with wool. The wool yarns are dyed grey or tan and interwoven with the new fibers into herringbones, plaids, stripes, or simple neat figures. That is obviously as far as you can go in the development of suiting styles until the chemist solves some more of the dyeing problems inherent in the new fibers.

In the long run the chemist will solve these problems. There can be no question about that. American dyers have learned a lot since the old days when we relied almost exclusively on Germany for all of our better dyes. Everybody who dates back to World War I will remember what a quandary we were in when the British blockade prevented German vessels from delivering dyestuffs to our textile plants.

It has also been said that all the United States got out of World War I was the German patent rights to dyestuffs. Maybe we did not do so badly at that. The first independent work by American dyers of basic importance and widespread utility was the perfection of vat colors. They came out in the late 20's but were retarded by the economic collapse of 1929 and the subsequent depression. It was an uphill fight, even in the mid 30's, to get the trade to pay the higher cost of vat colors over fugitive colors. Today vats are par for the course.

Fast colors for synthetics were next on the list. These turned out to be a brutally tough nut to crack,

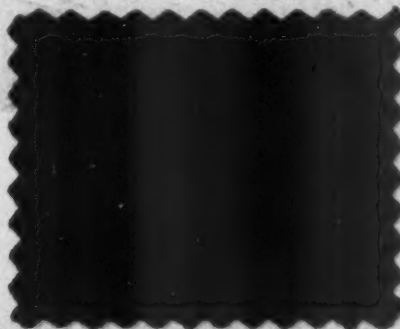
especially in the case of acetates. For years gas fading or atmospheric fading of acetate garments was not just a headache but an unmitigated nightmare. Many a manufacturer and many a merchant suffered staggering losses by gas fading of merchandise on the selling floor or in reserve stock.irate customers in appalling numbers used to turn in garments that had faded in the closet.

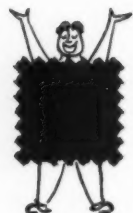
That particular problem has been largely licked, but there is still plenty of room for research and experimentation in the field of the earlier synthetics, let alone the baffling newcomers.

One of the most interesting chapters in the modern color story was written by the Aridye Corporation, a division of Interchemical, when it introduced pigments for textile printing in the mid 30's. They got the idea from their printing ink business and applied many of the principles and procedures of inks and printing on paper to the manufacturer of pigments for printing on cloth. These colors have found their niche in the textile world.

Instead of slackening off, the textile colorists are doing more and more remarkable things all the time and developing more and more remarkable and valuable techniques. Within the last two years a wide range of colors of highly satisfactory fastness has been applied to acetate jersey, a fabric which had been the dyers' despair for many years. Some beautiful results have been obtained. Take, for example, the remarkable new departure of combining dyes with resins so that both the dye and the resin are impregnated and locked into the cloth. That is how it is possible to tip color on to the raised portions of sculptured fabrics or inlay it into the *valleys*.

Jules Verne was able to visualize 20,000 Leagues Under the Sea and other spine-tingling discoveries of the future. Even his vivid imagination was entirely unequal to visualizing the wonders which the modern textile chemist performs with colors as part of his daily routine.





Textile Printing

up from the bargain basement

Until fifteen years ago printers were the poor relations of the cotton textile family. Although silk and rayon prints occasionally attained high esteem, printed cottons were so thoroughly discredited that it was common practice for better stores to claim in their men's shirt ads that no prints were included in their merchandise.

The reason for the disrepute in which printed cottons were held is already being buried in obscurity. It happened, however, that vat colors were introduced into piece-dyed and yarn-dyed fabrics long before they were available in prints. Naturally the colorfastness of printed cottons suffered sadly by comparison. The subsequent success of vat prints remains one of the important modern textile triumphs. In fact it was a doubleheader of a job. After the dyes were perfected, it was found that previous printing methods were far from adequate to secure the new effects that were coming into demand.

Here it should be noted that printing on cotton cloth is something quite different from printing on paper. In the latter case the printing impression is secured by the raised surfaces of the type or illustrations. In the case of cloth printing, instead of being raised it is etched into the roller and absorbed into the cloth through pressure and capillary attraction.

The first vat prints were used primarily for men's shirts and shorts as well as women's and children's cotton apparel. They soon expanded into the field of cotton suits. For a long time the most important prints were fine stripes and neat figured shirting patterns, with here and there a bold pajama stripe.

Four very important advantages soon began to manifest themselves...

FIRST, the speed of the operation. You can en-

grave a roller and be all set for printing much faster than it is possible to prepare colored yarns for the loom.

SECOND, the printing process is ideal when small runs for quick turnover are required. There is no minimum yardage requirement to break even as in the case of woven goods.

THIRD, the endless versatility of the process. You can reproduce any pattern in any size, shape or style. If an artist can paint it, or a camera can photograph it, the printing machine can reproduce it.

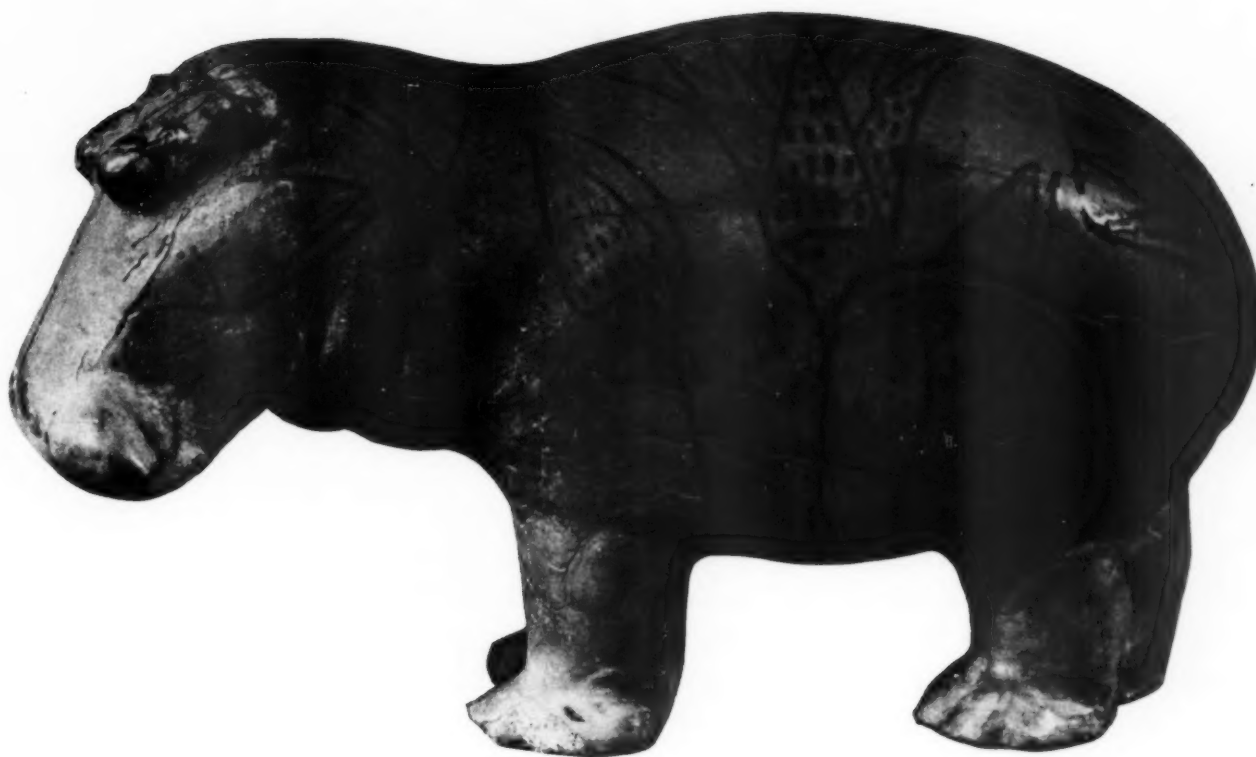
FOURTH, maximum economy. Prints are considerably less expensive than the same patterns produced by other methods.

Finishing plants specializing in prints should be eternally grateful to the vogue for big splashy patterns. The printing machine has no rival, and is frequently the only possible medium, for the transfer of pictorial designs, giant patterns and the bold use of color. The demand has kept pace merrily with the technical improvements in printing. Men's sport shirts and beachwear alone have consumed an unbelievable yardage. Nor have big prints been confined to apparel. Look at the draperies and spreads in any store and you will very soon get the picture.

Really fine printing is getting to be an old story. The most recent progress has been made in another direction; namely, in photographically engraved



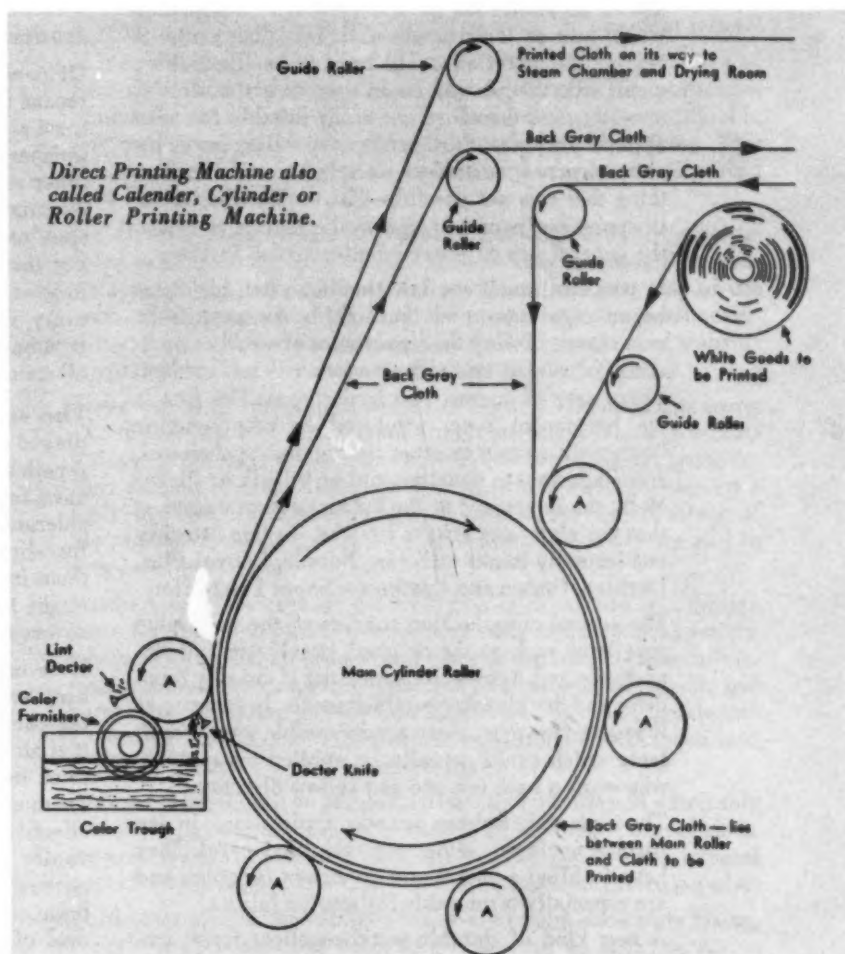
The processes by which Nature prints her designs are both inscrutable and appealing; always appropriate,



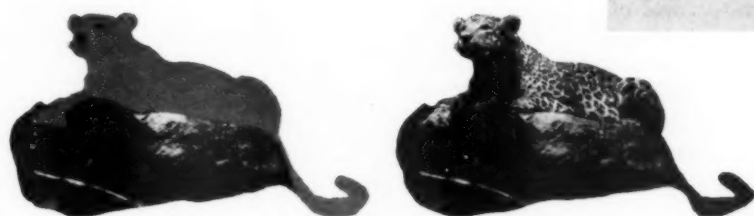
rollers. European printers are reported of the opinion that within ten years the photographic technique will entirely replace engraving by the pantograph.

Be that as it may, both methods are producing many interesting fabrics. Specially worthy of mention are the new bronze prints which look like real bronze because they are real bronze. Then there are the double prints which feature a complementary color print on the reverse of the fabric. Double prints are not to be confused with duplex prints, in which the same pattern is printed front and back for garment uses where the reverse of the fabric is conspicuous. Then there are the new embossed prints with the color either typed on the raised surfaces or applied to the *valleys* by inlays. The modern printer can really do tricks.

There is an important point to be noted in connection with the printing process. Here is where art gets into textiles with a capital A. While there are millions of yards of prints that never get beyond conventional stripes and dots and other conservative designs, there are many millions more which go far beyond the boundaries of routine commercial patterns. It is in the creation of designs for printing that the textile industry leans most heavily on the fine arts. Some of the finest printed patterns of ancient as well as modern times are as much works of art as they are products of utility.



A. The etched copper print rollers which make printing possible. There must be a roller for each color used in the pattern.



they are never exactly repeated; without them life would indeed be colorless.

Water-Repellents



singin' in the rain

It has already been noted that Cravenette was the first of the trademarked finishes. The name was the brain child of an English manufacturer named Wiley, who coined it from Craven Street, London, where he lived. This was seventy years ago. Almost a half century was to elapse before the next trademark finishing process appeared.

Originally and for many years Cravenette was known as rainproof or waterproof, a designation which was as unfortunate as it was inaccurate. A rain *proof* material would have to be like rubber or oil silk, completely impervious to air as well as to water, and therefore not at all suitable for most apparel purposes. Furthermore, by selling garments as waterproof, customers were led to expect something that was not possible. Then some ill-advised, ill-sponsored process came on the market to retard the general use of water-repellents even further.

It was not until the late thirties, when big firms began to get interested, that light broke through the rain clouds. Today the importance of weather processed fabrics of one sort or another is self-evident. There are, of course, two basic types. The first is the permanent type, produced by impregnating fibers with a resin or other thermoplastic chemical. It is important to note that, unlike oil silk or slicker cloth, the interstices of the fabric are not coated so that the cloth can always breathe. In this category one instantly thinks of Zelan, Norane, Permel Plus, Durasec, Unisec and Cravenette Super Long-Life.

The second classification consists of the renewable repellents such as the original Cravenette and Impregnable and Aridex. Reprocessing is done by laundries and dry cleaning establishments, in some cases licensed. However, there are renewable water-repellents which could actually be applied by anybody who owns a bath tub and can follow directions.

The renewable finishes are wax applications, in one form or another — either vegetable or mineral. They have fulfilled a useful and important function, and are especially serviceable for woolen fabrics.

A new kind of durable water-repellent finish employing silicon resins is the latest entry into the field. The first silicon process was Hydro-Pruf, which can be used in combination with many other resins and is adaptable to most fabrics. Now there is also a Norane silicon repellent called 4-Star SWR.

Initially water finishes were virtually confined to rainwear. This was during the long years of the

profitable pre-sport jacket era. Today the sport jacket is the most profitable field for water-repellent fabrics. That's where the big yardage goes.

Of course the last word on the subject has by no means been spoken. Even the most casual observer must realize that the nationally known trademarked finishes are more and more relying on features other than weather protection to sell the ultimate consumer. The most important of these features is spot- and stain-resistance. Wrinkle-resistance is being thrown in as an extra bonus in some of the processes. Spot-resistance is an integral part of every water-repellent. If a fabric repels water it automatically repels all water-borne spots, though oil stains are always exempted from claims.

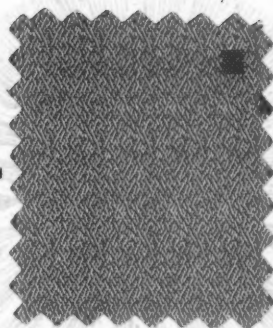
The end use determines what feature should be played up. Few men would be interested in a water-repellent necktie, but stain- and spot-resistant ties have been advertised and merchandised with considerable success. The story is very much the same for slip covers. Women are hardly likely to buy them in order to put them out in the rain, but they might be very much interested in processed slip covers which resist soilage.

Here is another interesting thing about the permanent water-repellents. Somewhere on the garment tag you will generally find a statement to the effect that all soaps should be thoroughly rinsed out. This is of the utmost importance. The fact is that any residual soap left in the garment will destroy the effectiveness of the repellent. This is not only a vitally important thing to know in laundering the garment, but also in sending it out to be dry cleaned, because the newer cleaning methods employ a good deal of soap. In view of the fact that it has been estimated that 99% of the complaints have been caused by the action of soap on durable repellents, this is a problem to be reckoned with.

There are many ramifications to the subject, many opportunities for promotion. Any way you look at them, effective water-repellents are right as rain. They belong in the modern scheme of things.



The Weather- Control Finish



A lining fabric of Bemberg rayon and acetate processed with MILIUM from ERLANGER BLUMGART.

linings with a built-in thermal barrier

One thing can certainly be said for Milium: the speed with which it has caught on is more than slightly bewildering. In the spring of 1950, when the process was first reported in American Fabrics, it wasn't even named — merely referred to as "X". Look at it now!

It is said that James H. Rand III, scientist son of the president of Remington-Rand, who invented the process, did not arrive at the idea of metallic insulation for fabrics until he went through considerable lost motion experimenting with electrically heated clothing. This was abandoned because even the lightest batteries and wiring proved to be cumbersome and burdensome.

Mr. Rand focused on one of the basic clothing needs when he decided to concentrate on working out something that would provide warmth without weight. For years and years this was one of the most treasured phrases in the lexicon of overcoat and topcoat advertising; but the phrase was used in only a relative sense, and many of the garments described were anything but featherweights.


There can be no question of Milium's claim to fame on this score. The thin deposits of resin-bound aluminum flakes which constitute Milium do not add even an ounce of weight to the lining of a garment. This method of controlling bodily heat, which virtually sets up a metal heat barrier, has been widely discussed, but the full effects of the process on clothing habits and the clothing industry are still in process of evolution.

Furthermore, new uses are constantly being developed. In addition to its far flung acceptance in coats and suits and outerwear for the whole family, Milium is more and more called upon to solve insulation problems for draperies (especially for picture windows), bed coverings, footwear, gloves, hats and caps. Awnings, beach umbrellas and body cloth for automobiles should likewise be mentioned as objectives that are now being investigated.

Another thing should be pointed out: insulated linings fit admirably into the trend towards casual clothing for, obviously, casual clothing must always be loose and light. All-weather comfort is an integral part of easy-going apparel that is becoming more and more popular.

Furthermore, with the family's break-even point constantly rising, today's budget-conscious housewife is lending an attentive ear to the sales argument that a Milium lining lengthens the wearing season of many a garment. Even more important, there is a very obvious economy in the use of much lighter and less costly outer fabrics because of the warmth provided by the lining.

What is next on the program? It is no secret that the technicians are bending every effort to make Milium washable. Once the present limitation to dry cleaning only is overcome, all kinds of new uses will immediately open up.



A combed Egyptian cotton fabric produced from two-ply yarns with DuPont ZELAN water-repellent finish by SEA ISLAND MILLS.

Texturizing the pre-resin period



Please do not trouble to look up the word texturizing in the textile dictionary. You won't find it. It was invented for the purposes of this article—to dramatize the various finishing processes which beautify the texture of fabric, or endow it with style and distinction.

To get the proper perspective on the subject of texturizing, it is essential to differentiate between the classic texture treatments that have been applied for many years by such methods as brushing, puckering and calendering, and the entirely different group of new textures produced by synthetic resins, starting with Everglaze in 1938.

The wonders of these new resin finishes are so dramatic and revolutionary that they make one forget the older applications. Interestingly enough, however, many of these veteran texturizing methods are not merely holding their own but are more important than ever. Abundant examples are all about.

Take cotton plissé as Exhibit A. Suddenly the modern world has awakened to the fact that this old-timer answers the most exacting contemporary specifications. It is completely washable; in fact, it is laundry machine-washable. It is quick drying and requires no ironing. It is one of the coolest fabrics made. You can't beat it for long wear and easy care.

What brings about all these blessings? A finishing process is the answer — the conversion from a flat to a crinkled surface. This is done by printing highly concentrated caustic soda in the desired pattern on the cloth by means of a roller. The printed part shrinks as the result of the action of caustic soda; the rest does not shrink and is therefore compelled to crinkle. That is all that there is to it, except that a reverse process is sometimes used.

Just as a finishing process is responsible for one of our important summer fabrics, so another finishing process is the means of giving us one of the most popular winter fabrics; namely, flannelette. This famous cotton version of flannel is produced by napping. The most commonly napped fabric is the soft filled sheeting. The napping operation is accomplished by running the cloth through a series of forty-eight rollers covered with wire brushes. The rollers do not have much effect on the warp because of its tight twist, but fluff up the filling with its slack twist into the characteristic flannelette texture. During the various processes, countless tiny little

air pockets are created in the texture, which give remarkable warmth through insulation.

The napping machine likewise produces various kinds of suedes. It's the same process, but the brushes are set in a different way. The difference has been explained as analogous to combing one's hair to the right or to the left, or straight backwards. Sueded fabrics are becoming more popular, too.

A grand old timer in the fabric world that has of late skyrocketed to national prominence is corduroy; and again we are dealing with a fabric that owes its unique quality and charm primarily to a finishing process. This is a complicated one. The grey goods have to be made in a certain way. They come from the looms in the form of a heavy corded fabric, with the cords rather loosely woven. The cloth is then run through a series of cutters which cut the cords in the middle without cutting the bottom weave.

After the cutting operation, the tiny cut threads stick up every possible way. By matting and felting these threads together into ribs or wales, the cloth is made into corduroy as you know it. This is done by a special treatment of waxes and oils, and a final polishing or *pegging*, during the course of which the cloth is run through a pegging machine under pressure against bars of iron wood to set the corduroy luster. In the finishing plants they say it is like shining a pair of shoes.

A special texturizing procedure which has recently been revived is flocking. This operation produces the effect of embroidered or clipped figures. The first step is to chop up fibers into very little lengths, known as flocks. A permanent adhesive is then printed on the cloth in the desired pattern. The flocks naturally stick to the adhesive. Recently a further refinement has been added by making the flocks stand on end electrically.

Add these various pre-resin texturizing methods together, and you will find they account for several hundred million yards among the most widely publicized fabrics that can be found on the market.

If you haven't a fine Modern Finish,

Texturizing

the resin revolution



You take an ordinary piece of cotton cloth.
You soak it with synthetic resins. You dry it a bit.
You apply a new texture by impression through rollers.
You make the texture permanent by curing.
You come up with something like satin, seersucker, linen
...practically any texture you can name.
And that's all there is to the Resin Revolution in textiles.

It's a good trick if you can do it; and lots of people are doing it nowadays.

The trick is the transformation of fabric by synthetic resins. To apply the term Resin Revolution in this connection is not one whit an exaggeration. It is impossible to stress too strongly the revolutionary character of the changes wrought in the textile world as the result of the transformation of texture by synthetic resins.

The resin beauty treatment has made veritable Cinderella fabrics out of low-end cotton goods which would never otherwise have come out of the kitchen. It has supplemented the unique practical virtues of cotton with a wealth of style effects previously beyond the scope of cotton manufacture.

There is no use ducking or soft-pedaling the fact that the resin treatment of cotton has been giving rayon a hard time. The head of the Silk & Rayon Printers & Dyers Association of America, Dean Lewis, likens the recent plight of the rayon finishing industry to the depression years of the early thirties. While the Resin Revolution gets a large share of the blame, the same kind of resin treatments modified for the needs of synthetics are doing more to activate a come-back of rayon than perhaps anything else.

Regardless of the fiber that is treated, remember that resins do a great deal more than alter or improve the texture. The same types of resins are utilized to confer wrinkle- and spot-resistance and many other desired characteristics. New techniques

leading the way to further diversification and usefulness are being developed daily.

It all started in 1938 with Everglaze chintz. Today glazing is only one of a multifarious variety of texture treatments by Everglaze and other processes. The technologists in this remarkable finishing specialty will tell you: "Show us your cloth, tell us what kind of texture you want, and we'll give it to you." This is no fatuous boast. You would be very ill-advised to bet that they can't do it.

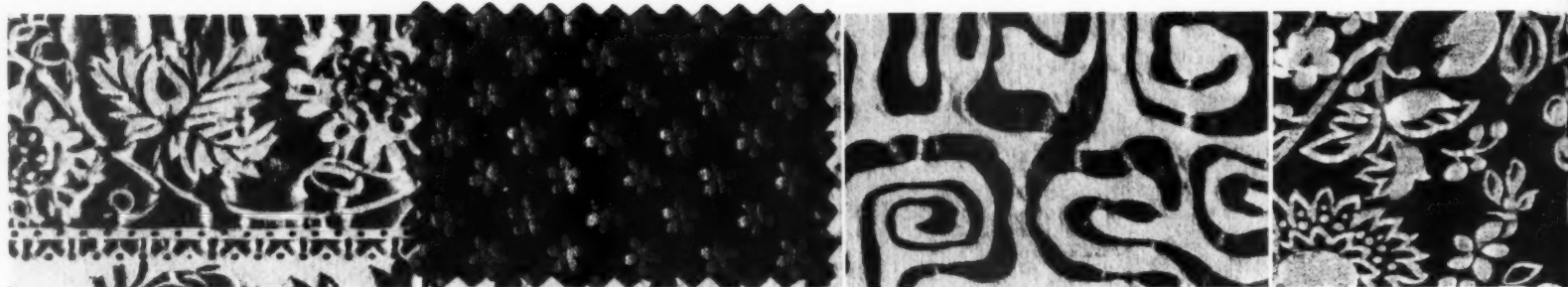
What are some of the important new textures? It would be almost easier to name a type of texture or pattern that is not at the moment applied by some form of resin treatment. You can get cotton made to look like satin, linen, leather or wall paper. You can get the plainest construction transformed into replicas of piqués, seersuckers, heavy cords, thick and thin effects, crepes, moirés. You can get intricate sculptured patterns on velvets, corduroys, jerseys, even tricots. Nor are these new textile sculptures limited to any one fiber. Natural or synthetic, old or new, everything is grist to this particular mill.

When it comes to the embossed effects, their number is simply legion. Here again it is a case of "Name it and you can have it." Furthermore, you can have your color, carried by the resin, permanently tipped on top of the *hills* of the embossed pattern or applied by inlays to the *valleys*.

What is more, there is always a hidden *plus* conferred by these resin beauty treatments. They invariably are responsible for concealed qualities

(please turn)

you haven't a fine Modern Fabric.



TREASURE CHEST non-tarnishing sculptured metallic wrinkle-resistant finish on colored cotton background, by CRANSTON inspired by MILLWORTH

of great price; for example, stabilization within the highly acceptable margin of 2 percent; wrinkle-resistance as well as resistance to spotting and soiling; long lasting crispness and freshness. Everglaze lists all these, as well as easy washing and ironing, quick drying, controlled porosity.

It adds up to quite a performance, one that is worthy of a few more words to explain how and why synthetic resins can accomplish these wonders. First it should be marked that the application of resins is effected hydraulically. In their initial form these resins are composed of single molecules, permitting easy and thorough penetration into the fiber. After drying sufficiently for proper handling, the cloth is ready for texturizing.

As noted, this is done by means of rollers, or, more properly, calenders. The surface of the calender determines the final surface of the cloth. Smooth calenders are used for polishing glossy fabrics. Schreiner calenders, with barely visible fine line (some 300 to the inch), impart a subdued luster and a soft, natural hand. Elaborately embossed

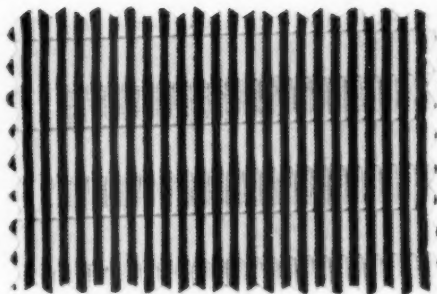
textures require *male* and *female* calenders with the hills of one fitting into the valleys of the other, and vice versa.

With calendering, the new texture has been applied, but it is not permanent. It would wear and wash out in no time. Permanence is achieved by curing with heat and a catalyst, resulting in a reaction called polymerization, which makes the texture permanent for the duration of the fabric. The resins which have been impregnated into the fiber are permanently locked so that they cannot separate from the fiber again. In other words, the actual physical structure of the fabric is changed by a chemical reaction of the resins themselves and possible further reaction between the resins and the fibers. At any rate, the individual molecules through polymerization are linked into chains and cross chains. In this girder-like network they are permanently locked, or bonded.

That is the simplified explanation of the fabulous resin beauty treatment that has touched off the Resin Revolution.

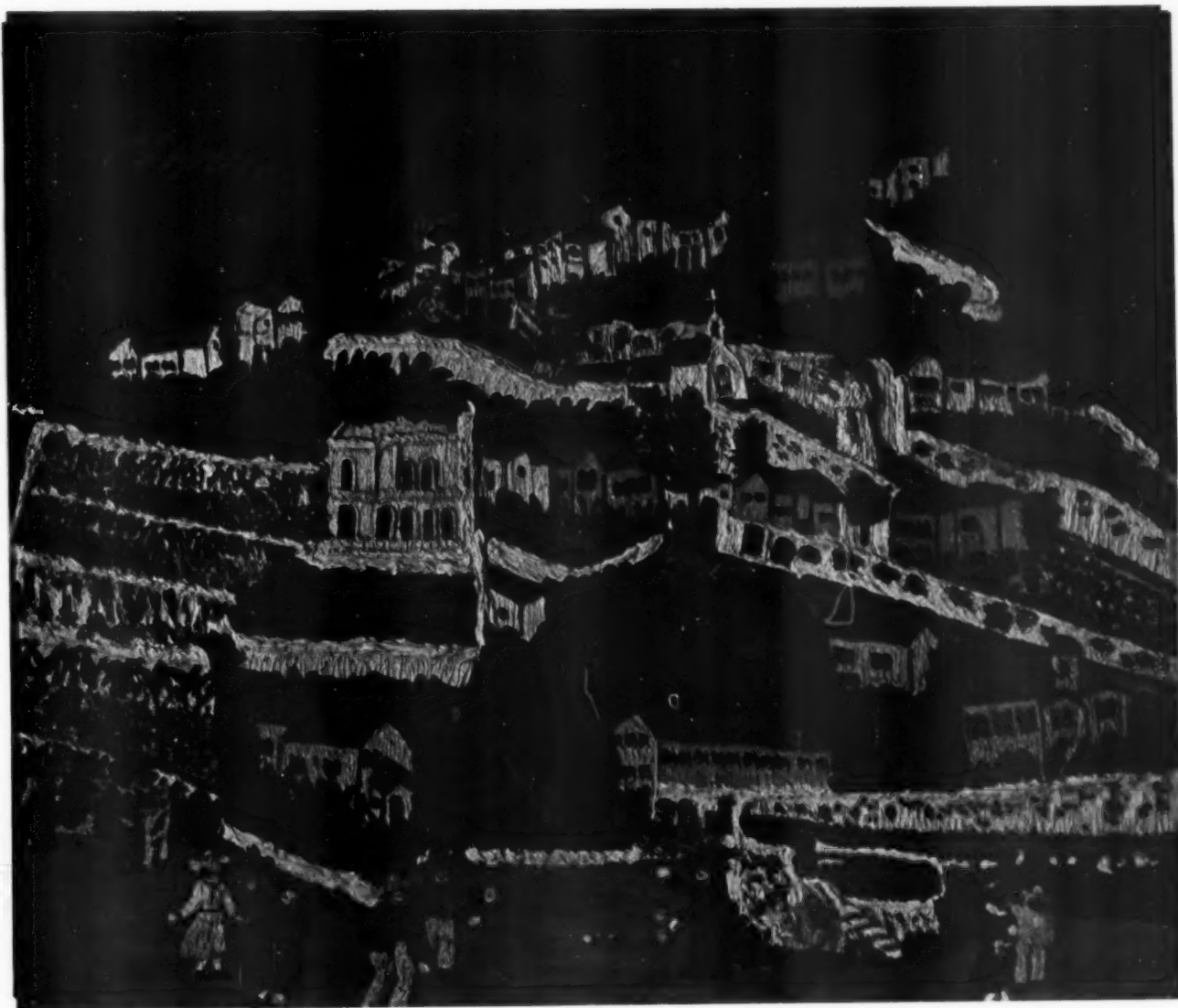
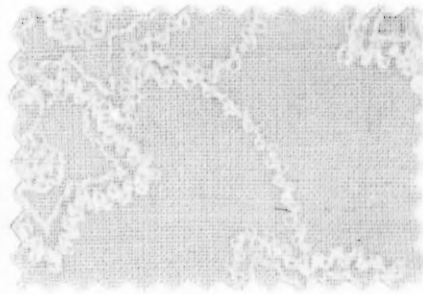


Color in combination with texture or surface interest is an art form which runs through primitive, classical and modern styles.



A Crown Soap'n Water fine cotton fabric with 3-dimensional effect in a permanent soil-, spot-, and wrinkle-resistant EVERGLAZE by CRANSTON.

An unusual decorative effect in embroidered style, in VERMICELLI flock treatment that withstands washing and dry cleaning, by VELVERAY CORP.



ST. PAUL DE VANCE. *Painting by Delacroix*

Collection William H. Weintraub

The painter is concerned with reproducing the great variety of textures in nature. By doing this he enriches his design and gives it tactile value. The textile designer similarly ceaselessly studies texture because it enriches fashion and gives depth and appeal to his creations. In reaching their results both are working in terms of color and depth, of the visual and the tactile, of emotion and function.

Fire-Retardant Finishes



Ignite Readily	Ignite with Difficulty	Non-flammable
All vegetable and animal fibers and Vicara	Nylon, Dacron, Dynel, Saran, Acrilan	Fiberglas, Asbestos

"Fireman save my child!"

The advertisers never let us forget the hazard of fire and flame. For a long time the fire insurance companies and the manufacturers of safes have prominently featured all manner of conflagration in their advertising. Subways and buses are full of car cards with the message that *Only You Can Prevent Forest Fires*. And now there is a poster campaign featuring a blue-eyed baby saying, *Remember, I'm not fireproof.*

What is involved in the rising tide of resentment against highly flammable fabrics? Such things as the needless loss of some 500 lives in the Cocoanut Grove disaster in Boston, attributable almost solely to unprocessed drapes; such things as flash fires caused by sparks on flimsy, unprocessed, brushed fabrics. The era of fabrics involving an unreasonable fire hazard has all but passed away. Fire laws have become more stringent everywhere. Common sense and common humanity appear to be winning.

There are now two types of fire-retardant finishes on the market — the durable and the renewable. In other words, the situation is much the same as in water-repellents, but the technology is less advanced. The cost of a permanent fire-retardant finish, washable as well as dry cleanable, that will neither affect the colors nor result in a boardy hand, is too high for many practical purposes.

On the other hand, many important and valuable applications of durable repellents can be reported. Army hospital tent linings as well as considerable light tentage are now permanently protected. Civilian uses include mattress tickings, upholstery materials and drapery fabrics.

Wearing apparel in many different categories is now being flame-proofed. Of particular importance are processed heavy cotton work clothes for welders, lead pourers, steel workers and others employed in work areas menaced by danger of contact with flames or intense heat. There are already a good many instances where men have been showered with hot metal and even caught in explosions without suffering burns because of protective clothing.

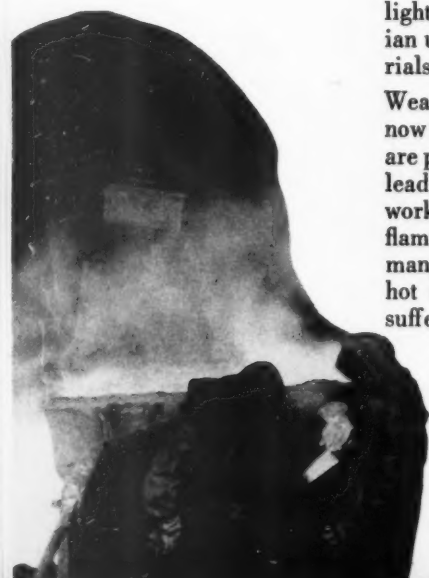
The most fragile fabrics on the extreme opposite end of the clothing scale are likewise being processed. A durable flame-proof finish is now available on nylon nets, involving a huge yardage of nets used for bridal wear, gowns, trims and underskirts.

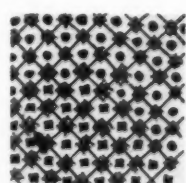
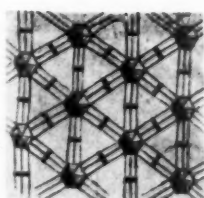
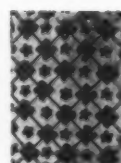
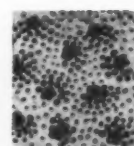
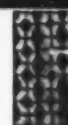
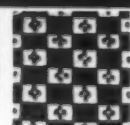
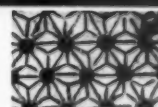
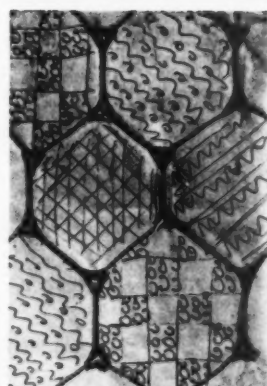
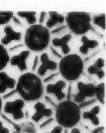
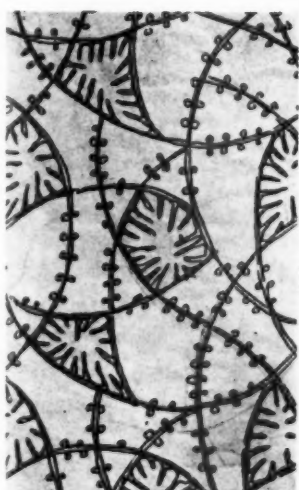
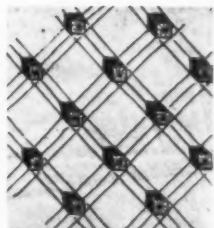
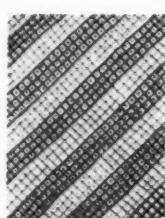
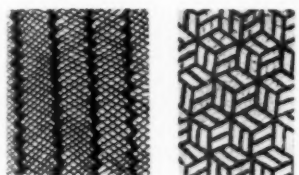
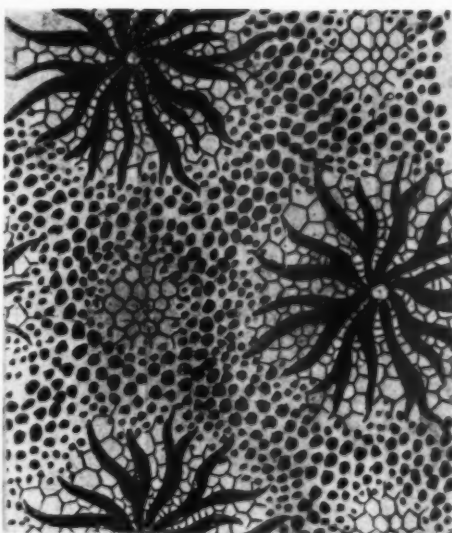
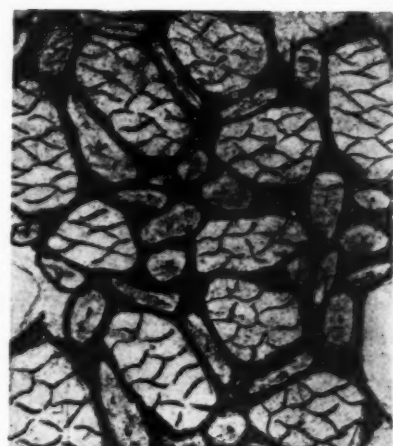
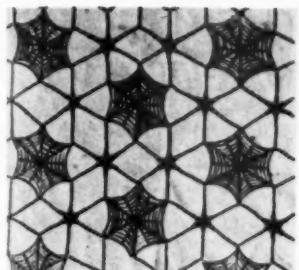
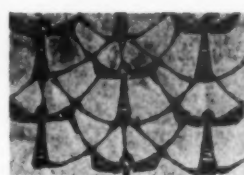
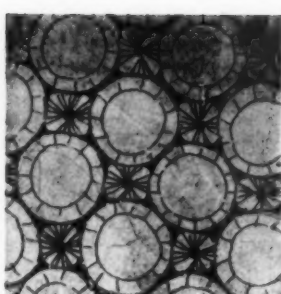
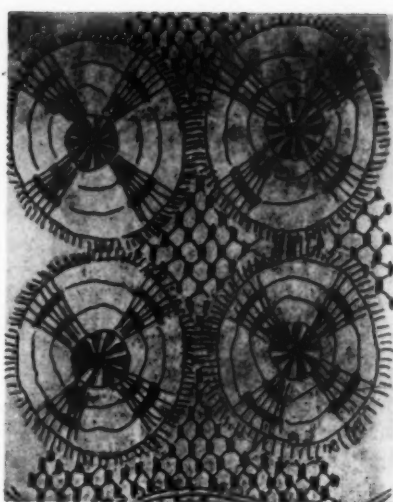
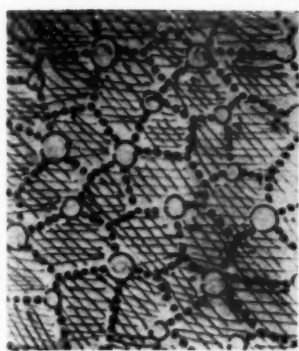
The finish for nylon nets is durable, be it noted. It is a Manhattan development. The leading durable finishes for heavy cotton materials are Pyroset, Erifon and Permaproof. They vary in characteristics, but all of them assure effective protection and durability. They will not flame, only char. There is no afterglow when processed fabrics are withdrawn from flames. There is no toxic effect.

The non-durable, or renewable, flame retardants that one hears about most are Anti-Pyros and Aerotex. The finish must be renewed after every cleaning or washing, but the protection is effective. Their chief use is in decorative fabrics.

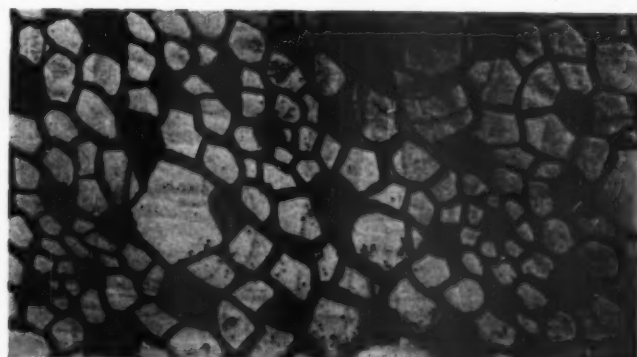
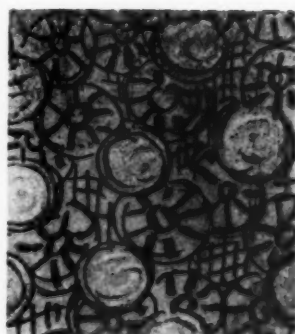
What are the prospects? Certainly there is very little doubt which way the wind will blow. It is not likely to fan up a lot of flames. Already the first *flame-proof* ship is sailing the seven seas, or rather plying the Atlantic. It is the S.S. United States. All normally combustible materials used on this luxury liner have been treated with Pyroset Flame Resistant Finish. That means curtains, carpets, rugs, draperies, upholstery, bedspreads, slip covers, mattress ticking and pads. That also means the eventual end of the era of flammable fabrics on great ships and other public conveyances.

It will pay to stand by for new developments. Remember: **THE FLAMMABLE FABRICS ACT WILL GO INTO EFFECT NEXT JULY.**





Compiled by the Editors of
AMERICAN FABRICS



Guide to some
well-known **Finishes**
and finishing terms



Guide to some well known finishes and finishing terms

APPLICATION PRINTING: Process in which colors for the desired design are applied directly to the cloth on very much the same principle as paper printing. This is more expensive than discharge printing in which dyed color is extracted and a contrasting color printed in one operation. Also called *direct printing*.

AVCOSET: Trademark of the American Viscose Corporation for a chemical stabilization process applied to rayon fabrics by which progressive shrinkage is controlled for the duration of the life of the fabric. The process is licensed to finishers, and to qualify for identification fabrics must pass standard tests for less than 2% residual shrinkage in apparel fabrics and less than 3% in other fabrics.

BELLMANIZED: Trade name of the Bellman Brook Bleachery for a durable, crisp, starchless finish especially designed for dress and curtain fabrics. It is employed mainly on cotton organdy and muslin. Fabrics with this finish retain crispness through many washings.

BLOCK PRINTING: Ancient type of print made with carved wood blocks or, at the present time, linoleum-faced wood blocks.

BLOTCH PRINTING: Refers to printing cloth by the direct method. This includes printing of the ground as well as the design color.

BOX-DYED: Used for woven or knit fabrics which are piece-dyed in loose rope form by successive immersions in the dyebath.

CHROMSPUN: Trademark of Tennessee Eastman Co. for solution-dyed acetate yarns which are designed to be colorfast.

CIRE: Special finish employing wax, heat and pressure to produce on certain types of satin a luster akin to that of patent leather.

COLORFAST: Applied to fabrics that retain

their color during the life of a garment. Strictly speaking, no fabric is absolutely *colorfast*. In buying fabrics, it is important to make sure that they are colorfast under the particular conditions they will encounter.

CRAVENETTE: Trademark of the Cravenette Corporation for a process that renders fabric water-repellent. The name is derived from Craven Street in London, England where the process originated.

CREASE-RESISTANT: Term used in the textile field to describe fabrics that have been treated to make them resist wrinkling and creasing to approximately the same degree as all-wool fabrics. Usually achieved by some form of resin impregnation, and applied to rayons, lightweight linens and cottons.

CROCKING: Rubbing off of excess color of a fabric which is usually the result of improper dye penetration or fixation.

CROSS-DYED: Refers to multi-colored effects from a one-dye bath of a fabric containing different fibers with different affinities for dye.

CRUSHMASTER: Trade name for a process of the Associated Dye and Print Co., for obtaining qualities of wrinkle-resistance, shape-retention and longer wear life in fabrics.

CRYSTAL: Trade name for a process of the Bellman Brook Bleachery for a permanent finish designed to give a supple hand and smooth, crystalline luster and transparency to organdy.

DELA-SET: Trade name of the Cold Spring Bleachery Co. for a shrinkage control finish designed to give durable washability.

DISCHARGE OR EXTRACT PRINTING: Printing by removal of some of the color of a previously dyed fabric. A colored design may be imprinted at the same time during this process.

DISCIPLINED: Trademark of Bates Fabrics, Inc. for a permanent resin treatment which renders fabric crease, shrink and mildew-resistant and which also resists soil and perspiration.

DOESKIN FINISH: Dense and felt-like finish for certain woollens which is achieved by drawing the fibers to the surface, and straightening and combing them in one direction. The finished fabric is covered with a short nap which hides the weave entirely. Used on such fabrics as flannel and billiard cloth.

DOPE-DYED: Trade term for *solution-dyed* or *spun-dyed*, which means that color is put into the chemical liquid from which rayon or synthetic fibers are made before they are formed through the spinneret. The fiber is colored all through which means colors will be fast.

DUO-CHINE: Trademark of Kenyon Piece Dye Works for a special application of Everglaze finish, used to produce two-texture patterns combining satin and crepe textures. It is applied to satins of viscose, acetate and nylon intended for linings, dress goods, and lingerie.

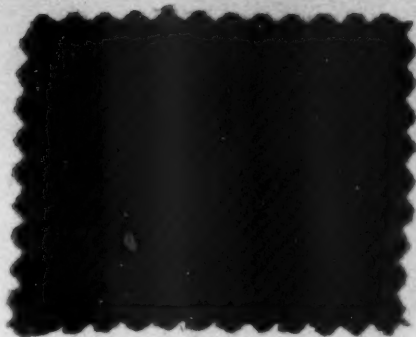
DUPLEX PRINTING: Method for printing the same design on the face and back of fabrics in two separate operations. It is usually used to simulate woven designs.

DURASEAL: Trademark of the Fair Lawn Finishing Co. for a water-repellent process for the waterproofing of nylon fabrics, which is designed to withstand repeated washings and dry cleanings without losing any of its efficacy.

DUR-O-FAST: Trade name of the Duro Finishing Corporation for a process in the dyeing of linings. Fabrics so treated will satisfactorily withstand standard perspiration, acid and alkaline tests, as well as tests for dry and wet crocking and cold water bleeding.

EMBOPRINT: Trademark of the Metro Dyestuff





A rayon and acetate fabric by Fox Wells which has a PUR-VEL finish by PURITAN PIECE DYE WORKS.

A fine quality white organdy with Heberlein permanent ICE GRADE finish by DEFIANCE BLEACHERY.

Corporation for a process which simultaneously embosses and valley-prints designs on fabric. Both the embossing and printing processes depend on resins, and the finished fabrics are washfast and dry cleanable.

EMBOSSING: Any pressure process producing raised or relief figures on the surface of fabrics. Usually accomplished by means of engraved rollers and heat application. Previously embossing tended to be lost in washing, but recent methods have fixed the design with a permanent resin finish, especially in cottons, which makes the fabric washable without loss of the embossing.

EVERGLAZE: Trademark signifying a fabric finished and tested according to processes and standards controlled and prescribed by Joseph Bancroft & Sons, Inc. It is used to produce patterned, textured and embossed surface effects, and to give the fabric durable wrinkle-resistance, soil-resistance and shrinkage control.

FACILITY: Trademark of Reeves Brothers, Inc., for a finish designed to give fabrics wrinkle- and shrink-resistance and perspiration- and acid-resistance according to U. S. Government standards. The finished fabric is washable and dry cleanable.

FIBERSET: Trademark of Bianchini, Ferier, Inc. for a process designed to stabilize rayon fabrics to prevent their shrinking, stretching or sagging.

FLOCKING: Name given to any process of applying short fibrous particles or short hairs to a fabric. Usually flocking is applied to fabrics by printing a design on fabric surface in adhesive, then dusting with the flocks which adhere to the prepared portions, forming a relief design with felt-like texture.

FRESH-TEX: Trademark of the Cranston Print

Works Co., for a cotton finish designed to render fabrics crease- and wrinkle-resistant, to control shrinkage within 2%, to resist perspiration and mildew, with complete washability.

GLACE: A glistening, lustrous and somewhat icy effect achieved on fabric by finishing.

HARRISET: Process of wet chlorination for the treatment of wool or part wool fabrics designed to produce shrink-resistance during laundering with minimum modification of the fiber. It can be applied to blends of wool with synthetic fibers. The process has been licensed by the Harris Research Laboratories.

HEBERLEIN: Permanent finish designed for application to organdies and other fine fabrics. It gives a crispness which is retained through laundering and dry cleaning processes. Of Swiss origin, it is licensed to finishers here.

HYDRO-PRUF: Trademark of Arkansas Co. Inc., for a durable water-repellent finish which does not impede air circulation. It improves crease- and crush-resistance and wear life of the fabric.

IMPREGNOLE: A trademark of Warwick Chemical Co., for a finish which renders fabrics water-repellent.

JIG-DYED: Named after the dyeing machine called a jig, which is designed to dye fabrics in open width, this process is used chiefly for woolens, sometimes for rayons and other fabrics. The cloth moves from one roll to another through a deep dyebath until the desired color is achieved.

KOROSEAL: Trademark of the Goodrich Rubber Co., for a synthetic chemical produced from salt, limestone and coal, which is used to coat fabrics and render them waterproof.

LANASET: Trademark of the American Cyanamid Co. for a resin treatment designed to con-

trol the shrinkage of woolens. Woolen fabrics so treated are stabilized to retain their original shape, qualities and dimensions to within 5% after five washings, and they are also capable of being dry cleaned.

LINEN FINISH: Term applied to finishes for certain types of cottons which make them somewhat resemble linens.

MERCERIZING: Named after its originator, John Mercer, this finish is extensively used for treating cotton yarns and cotton goods to increase luster and improve strength and dye affinity. The treatment consists of impregnating the fabric with cold concentrated sodium hydroxide solution. Best results are obtained on combed goods, the process being most widely used for knitted fabrics.

NORANE: Trademark of Warwick Chemical Co. for a water-repellent finish, one variant of which also gives crease-resistance, shrink-resistance and stain-resistance. Fabrics so labelled have been subjected to tests and reach standards of performance set by the proprietors.

NYLONIZING: Trademark of Hans C. Bick Inc., for a process of bonding type 8 nylon to fabric to give it faster moisture absorbency, a softer hand and greater wearing comfort. Developed for nylon fabrics, it is now used for rayon, acetate, cotton and blends.

PACKAGE-DYED: Yarn-dyeing while the yarns are wound on spools or cakes.

PERMEL PLUS: Trademark of American Cyanamid Co. for a washable, water-repellent finishing process which also gives crease- and soil-resistance to the fabric. The finish increases the durability and strength of the goods to which it is applied.

PIECE-DYED: Material dyed in the piece after weaving in a single color, as opposed to yarn-

(please turn)



F



PP



FF

Guide to finishing terms . . . continued

dyeing, stock-dyeing and dope-dyeing.

PUR-VEL: Trade name of the Puritan Piece Dye Works for a process designed to impart a superior quality of hand and loft to fabrics made of synthetic fibers.

REDMANIZED: Trademark used to identify fabrics which have been treated by processes developed by F. R. Redman for woolen and cotton knit goods to secure relaxation shrinkage. Treatment by these processes results in fabrics which are washable without undue shrinkage, and identified within a quality control plan.

RESIDIZED: Trademark of the Newport Finishing Corporation for a process designed to control residual shrinkage in rayon linings.

RESIST DYEING: Method of treating yarn or cloth so that it will not absorb the dyestuff of any subsequent dyeing operation.

RESIST PRINTING: Creating color patterns by printing a substance which resists dyestuffs in pattern formation on the fabric, then piece-dyeing the fabric. The ground of the fabric is dyed while the print is unaffected.

RESLOOM: Trademark of the Monsanto Chemical Co., for a resin finish used on cotton, wool and rayon, separately or blended. It makes cottons and rayons wrinkle-resistant and when applied to wool it impregnates the fibers, stabilizing the fabric against shrinkage.

RIGMEL: Trademark of the Bradford Dyeing Association for a stabilization process which also gives luster and a soft hand to such fabrics

as cotton shirtings and dress fabrics. The process controls shrinkage to within 1% of the length or width of the fabric.

ROLLER PRINTING: Method of printing fabrics with engraved metal rollers. The rollers, one for each color in the pattern, are placed around the circumference of a large cylinder so that the cloth to be printed passes between the rollers and the cylinder. Each roller is provided with its own trough containing one color, all combining to produce the pattern.

SAG-NO-MOR: Trademarked process of I. A. Wyner & Co. for treating wool jersey to prevent it from sagging or stretching.

SANCO 400: Trade name of the Sanco Piece Dye Works Inc., for a process designed to impart washability, crease-resistance, color-fastness and shrinkage control within 2% to rayon fabrics.

SANFORIZED: Trademark of Cluett, Peabody & Co. Cotton fabrics so labelled have been processed so that they will not shrink dimensionally more than 1% in accordance with Government tests and standards. The owners license finishers in this country and elsewhere, and control the use of the process to ensure that specified standards are maintained.

SANFORLAN: Trademark of Cluett, Peabody & Co., which covers chemical treatment by two different processes and one additive impregnation treatment designed to prevent shrinkage, matting and felting in woolens.

SATIN FINISH: (1) A glossy, lustrous finish

given to various fabrics; also (2) the gloss which is produced by calendering cotton, wool and silk fabrics between hot rollers. Term with a wide trade usage.

SAYL-A-SET: Trademark of Sayles Finishing Plants Inc. for a process designed to control shrinkage in rayon and other fabrics.

SAYERIZED: Trademark of Sayles Finishing Plants, Inc. for a starchless finish for cottons.

SCHOLLERIZED: Trademark of Scholler Brothers Inc., which refers to woolens that have been chemically treated to control shrinkage and to help retain the desirable qualities of natural wool. Effective for the life of the fabric, the process gives control of matting, felting and of shrinkage to approximately 1%.

SCREEN PRINTING: Somewhat like stencil printing, except that a screen of fine silk mesh is employed. Certain areas of the screen are treated to resist the coloring matter. The paste color is forced through the untreated parts of the screen onto the fabric. A separate screen is used for each color in the pattern.

SHOWER-REPELLENT: Refers to fabrics which resist the action of light rain falling at an angle. Also called splash-resistant.

SHRINKING: The treatment of a fabric during the finishing process so as to remove most of its tendency to shrink; or, sponging or steaming treatment given to woolens and worsteds for the same purpose, before cutting.

SKEIN-DYED: Refers to spun or filament yarns





of any natural, rayon or synthetic fiber which are dyed when in the form of hanks or skeins.

SOLUTION-DYED: Refers to fabrics of rayon or synthetic fibers which are dyed by adding color to the chemical liquid before the fiber is formed through the spinneret.

SPONGING: The last decating operation given to woollens and worsteds to shrink them and improve the hand and finish. It is also used for steaming woolen fabrics before they are made up into garments.

SPUN-DYED: See *Solution-Dyed*.

STABILIZING: Any process which imparts dimensional stability by preventing either shrinking or stretching.

STOCK-DYED: Refers to fibers dyed in the raw state before being spun into yarn.

SWEETWATER: Trademark of the Verney Corporation covering a process designed to render fabrics crease- and wrinkle-resistant, shape-retentive, water-repellent and resistant to spotting from non-oily stains.

TEBILIZED: Trademark of Tootal Broadhurst Lee Co. Ltd., applied only with their permission to fabrics which have passed standard tests for a process designed to give crease- and crush-resistance and to improve hand and drape. The finish can be applied to linens, cottons, spun rayons, and acetates.

TEMP-RESISTO: Trademark name of the Temp-

Resisto Corp., for which Samuel Kaplan & Sons is sales agent, for a reflective insulating lining process.

TOP-DYED: Refers to wool which is dyed when in the form of the loose rope of parallel fibers made by a combing machine, prior to spinning the fibers into worsted yarn to make worsted cloth.

TRIANGLED: Trademark of the Triangle Finishing Corporation for a process which is applied to knitted nylon, to make it wrinkle-resistant and permanently stable in width and length.

UNIDURE: Trademark of the United Piece Dye Works for a permanent, wrinkle-resistant finish, which is designed to wash, dry clean and last for the life of the fabric.

UNION-DYED: Refers to a fabric consisting of two fibers which are dyed in one bath to produce simultaneously in each type of fiber a different color or a single uniform shade.

VAT-DYED: Refers to materials that have been dyed by a process which employs oxidation. Vat dyes are considered the most resistant dyes to both washing and sunlight.

VATRU-SET: Trademark of the North Carolina Finishing Co. for a process designed to ensure color fastness in dyeing, and stabilization to control shrinkage. Residual shrinkage is limited to 2% to qualify for identification.

VELVERAY: Trade name covering a group of finishing processes belonging to the Velveray Corporation, including various flocking tech-

niques for creating flocked designs and effects that will wash and dry clean and are suitable for curtains, lingerie and wearing apparel.

VITALIZED: One of the trade names used by the U. S. Finishing Co. for the crush-resistant process operated by license from Tootal, Broadhurst Lee Co.

WARP PRINTING: Achieved by printing the warp threads before the fabric is woven. The pattern has blurred edges because of the subsequent weaving.

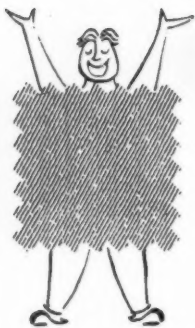
WAT-A-SET: Trade name for a process of the Mount Hope Finishing Co., designed to give crush- and crease-resistance and to make ironing unnecessary for fabrics so treated.

WRINKL-SHED: Trademark of Dan River Mills for a process designed to give permanent crease-resistance, shrinkage control, soil and mildew-resistance to cottons and other fabrics, and to aid fast drying.

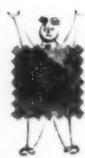
ZELAN: Trademark of E. I. du Pont de Nemours & Co. for a durable, water-repellent and spot-repellent process. The finish remains effective after many launderings and dry cleanings. The process is licensed to finishers and goods so labelled are strictly controlled as to quality and performance.

ZESET: Trade mark of E. I. du Pont de Nemours & Co., Inc. for a product designed to produce crease-resistance and shrink-resistance on fabrics made of cellulose fibers. Excellent durability, softness of hand and ease of application are features. END





Shrinkage-Control



no one loves a shrinking violet

The subject of shrinkage-control gives you an acute sense of the march of time. Any one old enough to have bought a cotton dress or shirt back in 1929 will bear this out. For in that year of economic debacle one still bought dresses and shirts a size too large. Otherwise a few washings would make them too tight to be worn. Today the assumption is quite the reverse.

The contemporary consumer expects his cotton garments to come back from the laundry the same size as when they were sent out. Anything else is positively a cut beneath the American standard of dressing. Furthermore, we are rapidly getting to the point where rayons and woolens that shrink will be considered equally impossible. It won't be long now; of that you may be sure. The tremendous barrage of advertising and publicity by powerfully entrenched textile interests to sell the country the same kind of shrinkage control for woolens and rayons as for cottons cannot miss.

The patron saint of shrinkage was G. Sanford Cluett, and it is eminently fitting and proper that his name should be memorialized in the trade mark *Sanforized*. 1930 was the first year of Sanforized fabrics. One forgets what a powerful selling effort was required to introduce this simple little improvement in people's attire. During the first few years it was considered necessary to pay for the advertising of leading users in order to get them behind garments made of Sanforized fabrics.

Still a lot of people do not know the underlying reason for shrinkage control. Of course it is to prevent garments from shrinking when they're washed. But why do they shrink? Does cotton shrink naturally? The answer is no. It is modern high speed production that makes cotton shrink. If cotton were spun and woven and otherwise processed entirely by hand, there would be no shrinkage problem.

But everything that happens to the little curly cotton fiber during the manufacturing operations stretches it further and further beyond its original dimensions. The stretching probably starts in the ginning and certainly proceeds without letup from the initial carding to the final calendering. Therefore the control process is merely one of taking out the stretch. This is done by washing a sample piece and measuring the shrinkage, or rather the degree of stretch. The fabric is then compressed mechanically back into what would be its original

dimensions if it were not for the elongation effected by the manufacturing operations. Such is the famous finishing process that is applied before a garment can be labeled *Sanforized* and guaranteed not to shrink more than 1 percent during its life span.

Rayon is another dish. This slang expression is particularly applicable, since the first of the great man-made fibers (and rayon is still the most widely used and most generally useful) has been likened to spaghetti. Fabrics made of rayon yarns will stretch as well as shrink. The yarns absorb so much water that they can swell up to almost 150 percent of their original size. In this condition they are plastic and subject to violent distortion in laundering.

A mechanical process would not help at all, and it took a long time to perfect chemical methods of controlling these errant rayon yarns. Furthermore, when at long last a shrinkage process was found which positively prevented shrinking or stretching over 2 percent, the hand of the cloth became limp. The poor consumer therefore was confronted with a sort of Hobson's choice. Which should it be — a garment that would not shrink out of fit, but with an unpleasing texture, or one with good texture but poor stability?

Obviously neither choice was acceptable. The modern fabric world has no place for materials that cannot rid themselves of fundamental faults. So the problem was tossed back to the chemist, and there was a long pause in the public presentation of permanently fitting rayon garments.

Now it has been done — by permanent chemical impregnation. Satisfactory shrinkage control without injury to texture has been achieved. Avcoset and Sanforset are among the most important names, but other permanent finishes like Permel Plus, while not primarily applied to correct shrinkage, result in shrinkage control, along with other qualities conferred on the fabric.

Today there is no intrinsic reason why all rayons

should not be completely washable for all uses where washing is desirable or necessary. As soon as the general public fully realizes that completely washable rayons are available *if you insist*, there will be no further use for the other kind.

For a long while the woolen industry stood pat in this matter of shrinkage. Perhaps this is an unfair statement, since the type of shrinkage peculiar to wool is by far the most difficult to control. Indeed, there are several methods in force and considerable, not to mention violent, difference of opinion among the experts. This is reflected in point blank, contradictory claims in some instances. It will doubtless take some time before the situation simmers down.

The success of Sanforized fabrics undoubtedly was a sharp spur to duplicate in woolen goods this smashing commercial success. But it was the inherent stability of nylon and other new man-made fibers that really lit the fire. The advent of synthetic socks and sweaters, that were woolly in appearance and texture and positively shrink-proof as well, left the woolen industry no choice in the matter. It was a case of *make woolens shrink-resistant, or else*.

The problem of wool shrinkage is modern and closely connected with social and economic conditions, rather than traditional and associated with manufacturing methods.

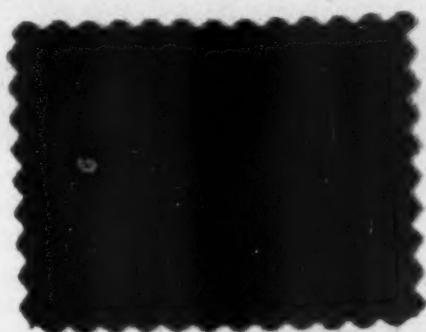
If you follow all the elaborate washing instructions for wool sox, sweaters, jersey and woven fabrics, shrinkage control of woolens would be unnecessary. But who has the time and the patience for this sort of thing, and where are the maids who used to perform these onerous chores? In other words, pre-shrinking was sooner or later inevitable. There are two different types of shrinkage in woolen goods. In the first, the wool is stretched in manu-

facture like cotton. When woolen garments are worn and washed they consequently relax, and that is a polite way of saying shrink. Quite apart from shrinkage due to relaxation, wool shrinks if given the slightest encouragement. The peculiar construction and action of the wool fibers are responsible for this. Their surface is covered with tiny scales that are generally likened to the scales of a pine cone. The fibers are inherently restless and crawl over one another, even when dry and hot. When subjected to soap and water, they interlock and curl into a hopeless tangle. This action is called felting. When felting occurs, shrinking is inevitable.

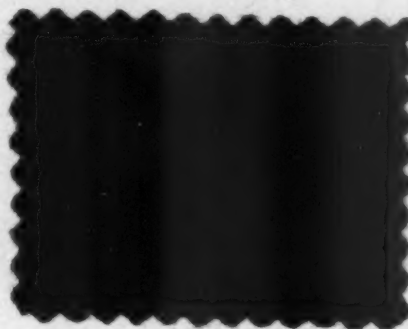
There are a number of different shrinkage processes in use today, based on widely varying theories and procedures. One of the most important is the so-called wet chlorination method, which blunts the ends of the fibers or alters their frictional properties and thus prevents the fibers from migrating and felting. There are three important versions of this procedure available for the processor today.

Another shrinkage method calls for the use of some kind of additive, generally a resin or rubber derivative. This involves impregnating or coating the fiber and has been said to resemble spot welding more closely than perhaps anything else. Then there are mechanical means to control relaxation shrinkage. You also have more than one process in operation under a single trademark.

The best known names in wool shrinkage are Harriset, Lanaset, Pacifixed, Redmanized, Sanforlan and Schollerized. Of these names, Sanforlan and Pacifixed have several years of consumer advertising back of them. All are shining examples of the modern finishers' determination to correct fabric faults, even those that had been considered chronic and incurable.



A wool and nylon Lamaspun fabric processed with a SANFORLAN shrink-resistant finish by J. P. STEVENS.



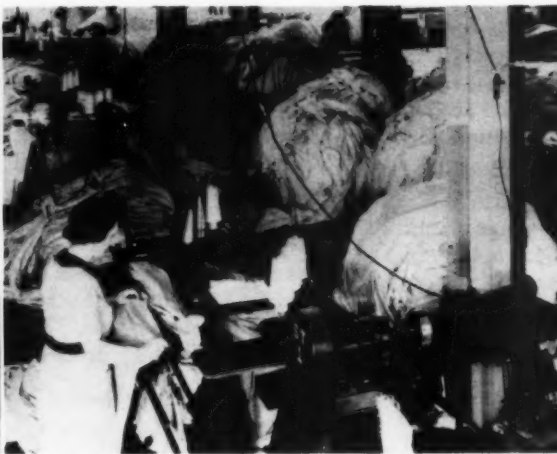
An all-worsted wool jersey processed with REDMANIZED shrink-resistant finish by ALLEN KNITTING MILLS.

Key Stages in Finishing Cotton Goods

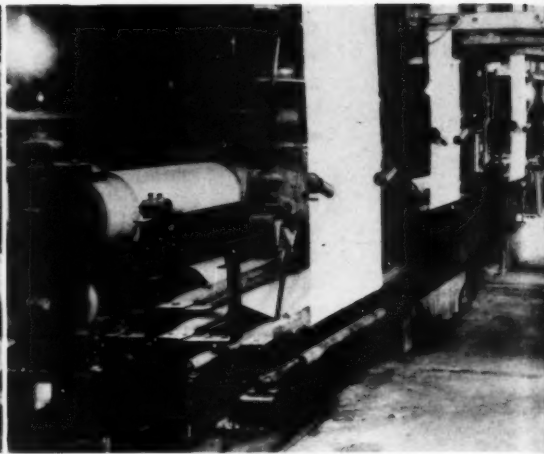
PHOTOGRAPHS COURTESY JOSEPH BANCROFT & SONS CO. AND AMERICAN CYANAMID COMPANY.



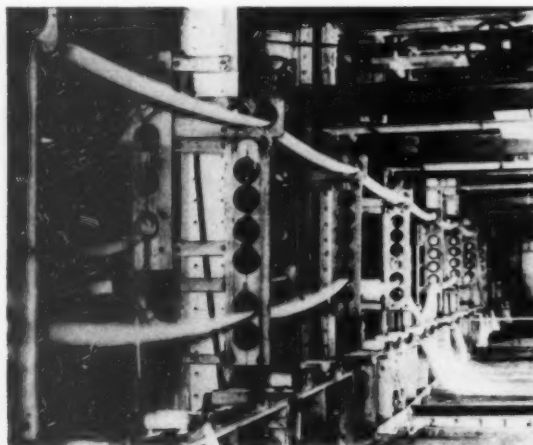
1. Cloth is received from the weaving mills as grey goods, and laid out ready for processing.



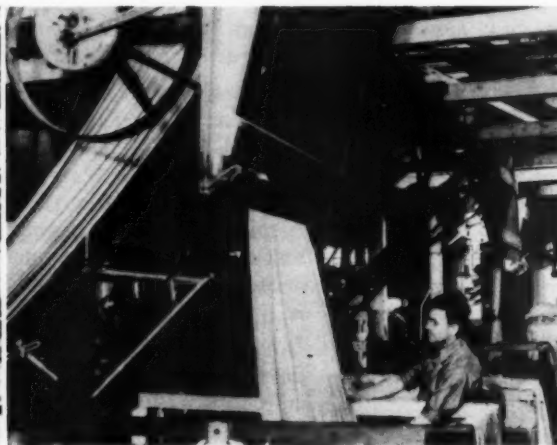
2. Stitching the lengths of cloth together so that they may run continuously through subsequent processes.



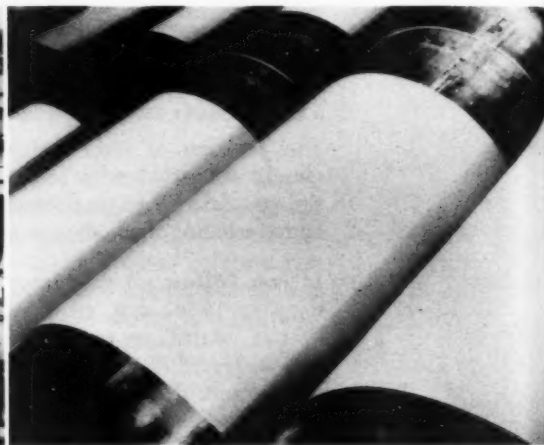
3. To improve dyeability and impart luster, the goods are boiled and mercerized with caustic soda.



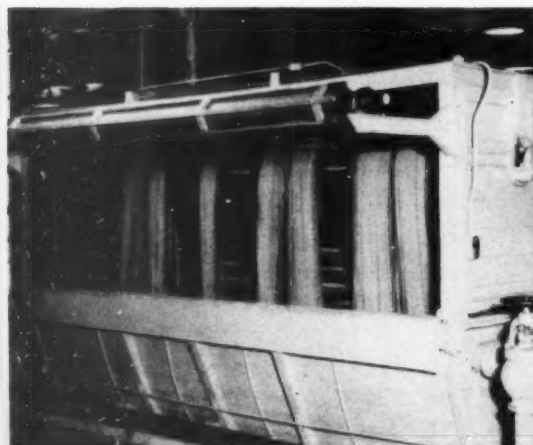
4. The goods are now bleached, usually in rope form as here shown, passing thence to storage bins.



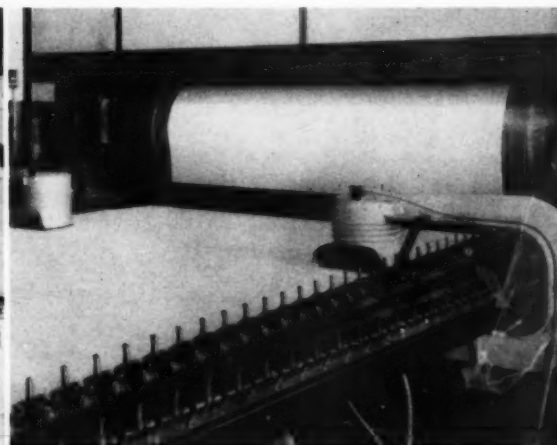
5. From storage, the goods in ropes are automatically opened up, passed through overhead mangles, then folded.



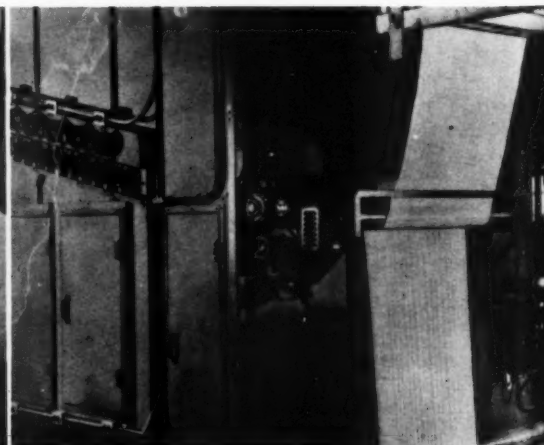
6. After mangling, the goods are dried ready for dyeing and finishing by pulling over drying cans.



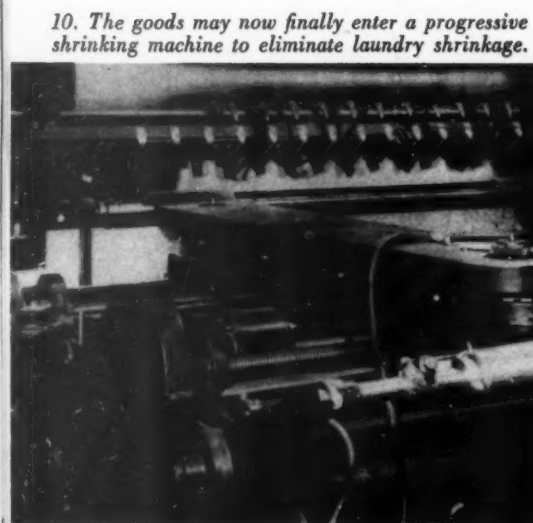
7. The goods are dyed while being kept continuously in motion in a dye bath, and are then dried.



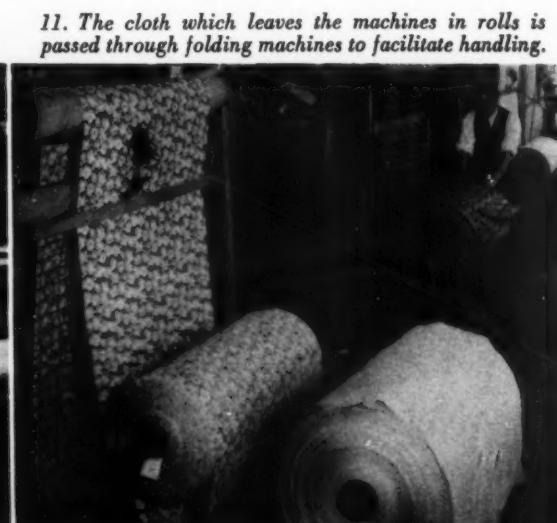
8. After drying, the goods are impregnated with various finishing materials and dried on tenter frame to exact width.



9. Where goods are resin-impregnated they may be cured by continuous process in a roller curer.



10. The goods may now finally enter a progressive shrinking machine to eliminate laundry shrinkage.



11. The cloth which leaves the machines in rolls is passed through folding machines to facilitate handling.



12. The folded goods are now tested, inspected, ticketed and wrapped preparatory to shipment.



Finishing Warp Knit Fabrics

controlling the uncontrollable

For years the inherent instability of warp knit fabrics was considered in the same class as death and taxes—something you couldn't do anything about and therefore shrugged off. The thought never occurred that some day tricots and other warp knit materials could achieve dimensional stability comparable to woven goods.

It took nylon to suggest the idea, when it was observed that at very high temperatures, just below the melting point, nylon fabrics could be reshaped and reformed. Early experiments soon revealed that to all intents and purposes heat-set nylon materials assumed new proportions which remained permanent during the life of the fabric.

The heat setting of woven fabrics was successfully accomplished long before knitted fabrics succumbed to a uniformly precise, controlled setting method. Experiments with nylon tricot began way back in 1941, but were unsuccessful for a long time because temperatures were not high enough and the fabric was inadequately controlled.

The first method applied commercially relied on wet or damp heat. The fabric was scoured and wound on a perforated beam, which was put into a steam chest or boiling water. In either case, greater shrinkage occurred on the outside of the rolled up fabric than on the inside nearest the beam. Subsequent dyeing operations revealed frequent color differences since the dye receptivity of nylon varies with the degree of heat applied and the degree of shrinkage incurred.

The problem was finally solved by the Triangle Finishing Corporation with their Trianizing process of setting by dry heat, which was introduced in 1949. The first Trianized fabric on the market was the Nyla-Q nylon tricot of Philip Wick Company.

In the Trianized process, nylon tricots or other warp knit fabrics are automatically fed through a hot air chamber at a temperature of more than 400 degrees, which approaches the fiber's melting point and is far higher than anything possible under previous methods. By controlling uniformity of heat and air flow as well as uniformity of tension lengthwise and crosswise, it is possible to control uniformity of processing.

Note that this is not a shrinking process like that employed for cotton fabrics, but a stabilizing process that controls stretching as well as shrinking. In fact, it is possible to control physical characteristics at any selected level in such a manner as to secure uniform width, color and texture. The determined dimensions of the fabric are permanently locked into place. Nets and tulles are similarly processed.

Dimensional stability is not the only valuable qual-

ity that modern finishing techniques have bestowed upon warp knit fabrics; nor are nylon tricots the sole beneficiaries. Gas fading and atmospheric fading, which used to be the curse of acetate tricots, has been virtually abolished, and within the last two years extensive ranges of washable colors for acetate tricot have been developed. These now include some of the difficult deep tones, including highly concentrated heavy shades. They are strictly washable in temperatures up to 160 degrees, many of the colors being even boilfast. It is only a question of time before washable acetate tricots become as standard as washable cotton shirtings.

Apparently not content with their long list of achievements in woven fabrics, synthetic resins are invading the domain of knitted goods. Durable tricot finishes now give nettings and tulles greater crispness, and give various warp knit fabrics in various fibers protection against wrinkling and muzzing, resistance to chemical action and more effective dimensional control.

Dupont's Zelan durable water-repellent has likewise been successfully applied to rayon warp knits, with the resultant opening up of new possibilities in bathing suits, linings, play clothes, spot-resistant gloves and children's wear. Here is a new field that has not even been fully surveyed as yet.

Sueded, napped and sculptured treatments offer other interesting methods of diversifying and extending the usefulness and attractiveness of products made by warp knitting. Some of the new finishes introduce such interesting items as tricot negligees with a duvetyn touch, lightly napped panties for cold weather, fluffy blouses and sueded sportswear. Many of these fabrics are hardly recognizable as knitted in origin. This is particularly true when you add a sculptured treatment to a smoothly sueded tricot. A wide variety of sculptured or embossed patterns may be secured—stripes, geometrics, florals—practically any type of pattern so long as it is not too detailed or fine.

There are already many interesting ways to modify the texture of tricot and many more in the offing. There are also many new finishes for new man-made fibers in the laboratory stage or pilot plant stage. In view of the fact that the productive capacity of the warp knit industry measured in terms of looms has more than doubled in the last ten years, the recent progress in finishing is encouraging news.

Wrinkle-Resistant Finishes



a great improvement over nature

The entire American textile industry appears to be engaged in a determined and relentless war against wrinkles — wrinkles in any form and on any fabric. Nor does it look as though peace will ever be declared until even our most unruly fabrics are made permanently neat, either by fibers that are inherently wrinkle-resistant, or by blends, or by any one of a dozen or more trademarked finishes.

Do the above statements sound like an exaggeration? Yes, if you insist; but look at the tons and tons of printer's ink purchased every day to extoll the virtues of wrinkle-free fabrics. Look at the millions upon millions of garment tags that are virtually promissory notes to the prospective purchaser that the garments to which they are affixed will resist wrinkles with might and main for ever after, through endless launderings and dry cleanings, to the very end of the chapter.

Who can be impervious to such a barrage? And who wants wrinkles when wrinkle-free fabrics can be had for the asking?

Most people concerned with textiles assume almost automatically that they grasp the general idea of wrinkle-resistance even if the technical details elude them. They figure that a piece of cloth is fortified by resins or other chemicals against creasing or crushing or wrinkling. The facts of the case, however, are widely at variance with this view. The great majority of trademarked finishes do not resist wrinkles so much as they facilitate recovery. There is a type of process that actually resists wrinkles by firming up the fabric, but that is not the type of the famous trademarked finishes. They are really *wrinkle-recovery* processes, so that the wrinkles on garments made of treated fabrics will either shake out or hang out.

In the beginning there was only wrinkle-resistance. Other virtues conferred by synthetic resins were either undiscovered or unheralded. The pioneer was the Tootal Broadhurst Lee Company Limited of Manchester, England, who, to quote their own words, "assigned a team of scientists to discover a way to give rayons, linens, and cottons the resiliency and the crease-resistance of wool." This was one of the earliest developments designed to give one fiber the characteristics of another, a pursuit which has subsequently become a favorite sport of the technologists.

It took the Tootal Broadhurst Lee team more than a decade of research work before a practical crease-resistant process was produced. This was finally done by impregnating the fabric with synthetic resin and curing it at a high temperature with a catalyst. For many years the process was not trade-

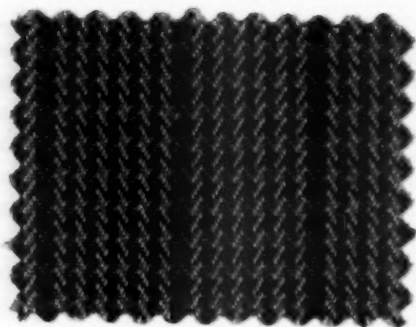
marked, but known simply as the T.B.L. process, or under such names as *Vitalized*, the trade name of the United States Finishing Company for the crush-resistant process applied as a licensee of Tootal Broadhurst Lee. Eventually *Tebilized* was adopted as the trade name.

For a long time wrinkle-resistant fabrics were relatively inconsequential factors in the market. It was not until the advent of Dan River's Wrinkl-Shed that the textile industry's war against wrinkles was declared on a national scale. Wrinkl-Shed, Super-set, Disciplined and others have accomplished a great deal more, however, than to raise the banner of wrinkle-freedom. From the very outset many other collateral textile benefits have been secured. They vary with the different processes, but in general they include permanent shrinkage-control — usually, stabilization within 2%. They offer resistance to airborne soilage (but not to spots and stains, which can be combatted only by a water-repellent). Wrinkle-resistant fabrics are also easier to wash and iron, and faster to dry; besides, they do not need starch. There is likewise a certain resistance to mildew — not the type of mildew that destroys color but that destroys strength.

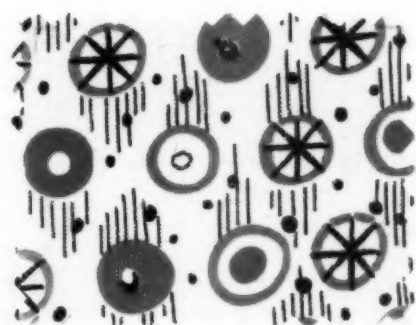
Today the roster of wrinkle-resistant and allied treatments for cotton fabrics is a yard long. Their total contribution to better appearance and easier care of cottons has been very substantial indeed. For one thing, the addition of wrinkle-resistance to cotton fabrics has promoted them from warm weather wear only, to year-round wear. There is no question but that winter cottons are among today's important fabrics, and that they would not have been born but for modern processing.

Improved wrinkle-resistant procedures have performed similar wonders for rayons. It seems to have escaped general notice that *Tebilized*, *Permel Plus*, *Unidure*, and the others have not only done something constructive about excessive wrinkling, but have been instrumental in upgrading rayons. To the commercial processes controlled by chemical companies and finishing plants must be added the trademarked processes of such mills as Burlington with their *Apple Skin Finish*. Make no mistake about it: the day of wrinkled fabrics is about over.

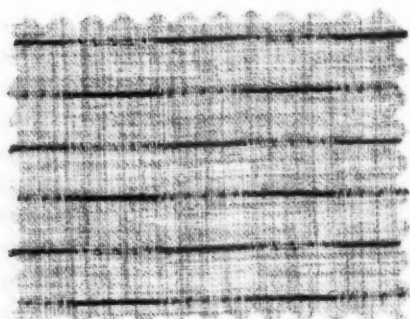
**If you haven't a fine Modern Finish,
you haven't a fine Modern Fabric.**



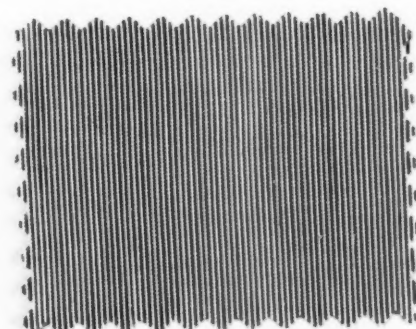
A Swift fabric of ramie, cotton and rayon blend with PERMEL-PLUS crease-resistant finish by TURNER HALSEY.



A combed cotton print for sportswear which has a DISCIPLINED wrinkle and soil-resistant finish by BATES FABRICS.



A Danflek cotton fabric with dope-dyed rayon decoration which has a WRINKL-SHED crease-resistant finish by DAN RIVER MILLS.



A blue stripe combed cotton baby cord FACILITY fabric by REEVES BROTHERS, with wrinkle-resistant finish.



The Economics of Finishing

how to get rich and famous or vice versa

There have been long periods when little in the way of riches adhered to that heterogeneous branch of textiles which constitutes the finishing industry. During the depression the finishers were more depressed than any group involved in the manufacture of fabrics. Even today recession is likely to strike finishing plants harder and faster than elsewhere. For example, the very worst conditions today in the entire textile industry are found among rayon finishing plants. Why is this?

A large part of the deep dyed difficulty of running a finishing plant at a profit lies in the fact that the quality of many finishes is hidden. Vat-dyed colors do not look one iota better than fugitive colors. In fact, if the particular shades employed in the latter process happen to be more attractive, vat colors may look a lot worse. There is nothing on the surface of a fabric which can tell the purchaser whether the wrinkle-resistant process or the water-repellent process is one of the best and most costly, or whether it is below par on all counts. In a sense, the finisher is trying to sell invisible merchandise.

To be sure, when it comes to a glazed fabric or an embossed fabric or any of the new texture treatments, the characteristics that are processed into the cloth are conspicuously evident to both the hand and the eye. Yet even in such instances, the superiority of one finish over another can be invisible and may well defy detection even by experts unless they resort to laboratory tests.

So-called commercial finishes that process fabrics for converters, as distinguished from the finishing plants of mills that do their own processing, are particularly vulnerable to price pressure. The worse business is, and the hungrier the finishers become, the easier it is for a converter to find some plant willing to take on an assignment at a ruinous price. The vertical mills do not get off scot free. Obviously, if they did not own their own finishing plants, they would pay less for finishing on the outside; and finally their finished fabrics must be strictly competitive with the converters.

Does this sound discouraging? It need not be. There have been some prodigious fortunes made in the finishing industry. Even during the darkest days of the mid-thirties there were plants that made money.

What is the secret? There are several. Even the plant that has not developed any particularly distinctive process can sell a quality finishing service on a quality basis. To do this it is necessary to stake out a claim in the consciousness of the trade for superior quality finishing.

How important a well entrenched reputation can be is illustrated by the experience of the Delta plant. Before it was acquired by J. P. Stevens, Delta was nationally known in the trade for finishing hard-to-handle heavy weight fabrics like army twills,

sateens and gabardines. Converters who patronized Delta would mention on garment tags that a fabric was Delta-dyed; and now that Delta is part of the J. P. Stevens picture, the words Delta-dyed appear on the Twist Twill label and in consumer advertising. The important thing to note is that the entire development started with the sale of a quality finishing service on a quality basis.

Another way out of the red into the black is by means of doing unusual or distinctive work. It has been said that if you divided the same piece of grey cloth up into ten pieces and had it finished at ten different plants, you would get ten different results. In the printing of fabrics you range all the way from engraving and printing that closely approaches a work of art, to the most awful borax jobs that had taste and bad processing can contrive.

Again, the necessity of staking out a claim is of paramount importance. That is precisely what the Cranston Print Works began to do in the early thirties, and they have never stopped. Their prints have been nationally advertised for years, and their success has been outstanding.

A survey of the economics of finishing would probably reveal that the operation most likely to succeed is the establishment of a trademarked process, preferably patented. This involves many things — licensing arrangements, enforcement of quality standards, maintenance of a technical service, educational work, advertising and publicity. To see the merits of the trademarked finish, you have only to ask yourself, where would the Sanforized operation be today without the trademark? Or where would Bancroft be if they had decided to apply their process for converters in the routine way rather than to trademark it, license it and advertise it? The number of trademarked finishes that have come on the market in the last few years surely would indicate that the idea is catching on.

It is enlightening to compare the widely varying backgrounds of companies who control finishing processes. You have chemical companies, silk mills, cotton mills, finishing plants and a shirt manufacturer. In several instances, a process that started as an extra-curricular activity has become a main interest. Some are world wide. The road to progress is clearly marked.



True or False?

...a quiz on textile finishing

Quiz yourself with the following twenty-five true or false questions relating to fabric finishes. Refer to the section below for the proper answers. Score 4 for each correct answer.

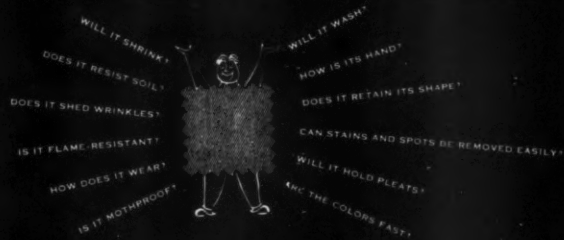
	True	False
1. Bleeding is the term used when color runs in a fabric.....	_____	_____
2. Napping, gigging, raising and teaseling may be considered as synonymous terms.	_____	_____
3. Colored printed background on a fabric is done by block printing.....	_____	_____
4. Reed marks in material run in the filling direction.....	_____	_____
5. The machine used in the design to be placed on rollers for printing is the pantograph.....	_____	_____
6. Embossing of fabric may be done before or after finishing.....	_____	_____
7. Burling, specking and mending are dry finishing operations.....	_____	_____
8. Mercerizing is a physical treatment done in finishing to simulate the schreinered finish on fabrics.....	_____	_____
9. Plissé will give a more permanent finish than seersucker finish.....	_____	_____
10. Stock dyeing is done after the yarn is spun.....	_____	_____
11. Paraffin is used in waterproofing of fabrics.....	_____	_____
12. Crabbing will produce an improved luster on fabric.....	_____	_____
13. Beam dyeing is done after the fabric has been woven.....	_____	_____
14. Flocking finish may be applied to practically any fabric.....	_____	_____
15. An all-wool fabric may be cross-dyed.....	_____	_____
16. To "straighten-out and level" material is done by perching.....	_____	_____
17. Watermarked or moiré effect is permanent on rayon fabrics.....	_____	_____
18. Beetling is a chemical finish popular on cottons.....	_____	_____
19. Doeskin finish is applied only to cottons and linens.....	_____	_____
20. Fabrics resistant to light rains are said to be waterproof.....	_____	_____
21. Stabilizing is the term used to imply any finishing process that prevents fabrics from stretching or shrinking.....	_____	_____
22. Taffetized is a broad term that denotes a crisp finish, often not permanent in nature, applied to rayon fabrics.....	_____	_____
23. A deluxe finish gives a threaded effect to cotton goods.....	_____	_____
24. Frosting finish is done by mercerizing, either at full or partial strength in the mercerizing bath.....	_____	_____
25. Ombré effect is brought about by calendering.....	_____	_____

ANSWERS TO FINISHING QUIZ

1. True. 2. True. 3. False. It is done by blotch printing. 4. False. They run in the warp direction. 5. True. 6. True. 7. True. 8. False. Mercerizing is a chemical treatment; schreiner finish is a physical treatment that simulates mercerizing. 9. False. The reverse is true. 10. False. It is done before carding and spinning. 11. True. 12. False. Crabbing sets the yarns and the colors. 13. False. It is done before weaving. 14. True. 15. True. 16. False. It is done by tentering. Perching refers to examination of fabric for any and all flaws. 17. False. It is permanent on acetate fabrics. 18. False. It is a physical treatment very popular in finishing linen goods. 19. False. Doeskin finish is used chiefly on wools; it may be applied to cottons, but not linens. 20. False. They are said to be water-repellent. 21. True. 22. True. 23. False. This is a chased finish; deluxe is applied usually to cottons which have a high schreiner luster finish. 24. False. Frosting is a slight luster finish obtained by schreiner at low temperature. 25. False. Ombré effect is done in the weaving of goods where graduated shades of the same color are desired. Calendering is a roller pressing or ironing of fabric.

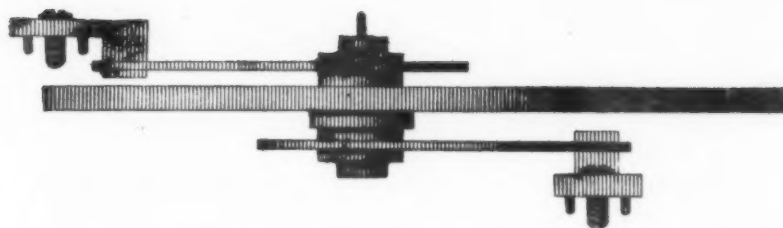
If you haven't a line Modern Finish,
you haven't a line Modern Fabric.

modern finishes



If you haven't a fine modern finish, you haven't a fine modern fabric.

Reprints of this section on MODERN FINISHES are available in separate brochure form for one dollar each. Write to AMERICAN FABRICS, 350 Fifth Avenue, New York.



A NEW PRECISION TEXTURIZING MACHINE

Such an advance in textile technology is represented by Shepardene that you cannot help thinking of "The Man in the White Suit." For the machine that produces the Shepardene texture and the results obtained are entirely beyond the realm of normal expectancy.

Just consider this: An operator sits at a desk in front of an instrument panel covered with dials that remind you of those that face the pilot of a plane. While he pushes buttons and pulls levers, he doesn't even see the 88,000-pound monster mechanism that can apply a precision-controlled plush surface on a fabric *four thousandths of an inch thick*. It is even possible to suede a piece of cellophane with the Shepardene process. In fact, that seems to be no trick for the American Silk Mills, who have perfected this process.

You might call the process *machine teaseling*, although in this sense the operation follows the best textile tradition of improving on nature. Just as chemical bleaching is a greatly improved method over bleaching in the sun, so the Shepardene procedure is vastly superior to teaseling by hand with a *thistle*. Up to now, teaseling has been one of the most laborious and costly of all finishes. The fine wool broadcloths and doeskins of Europe are teaselled by hand for days at a time. Then they are sheared, then they are teaselled again, and so on until a mass of uniformly sueded or plushed fibers is achieved.

Why not produce the same results with napping or brushing? It cannot be done. Even though the needles or wire brushes on the nappers are of uniform length, the fabric does not possess uniform overall depth, because the yarns run over and under one another. Uniformity cannot be obtained by pressure, because this would tear the fabric. Hence, in making flannel-ettes, a soft filled sheeting is used. The nappers scratch up the soft filling for the flannelette texture but do not get to the hard warp threads which give the fabric the necessary strength.

Machine Teaseling Invention

The more you study the problem which confronted the American Silk Mills when they undertook to invent machine teaseling, the more you realize its formidable dimensions. It is far easier to achieve new color and pattern effects than it is to alter the hand of a piece of cloth. There was nothing to go on in normal mill procedure; no available machinery of anywhere near the necessary exactness was to be had from manufacturers of textile equipment. This led to a search in the metal industries, where tolerances as fine as one-ten-thousandth of an inch are common. The prototype of the Shepardene equipment was eventually found in an elaborate piece of mechanism used to polish steel.

In the drastic conversion for purposes of re-surfac-

ing textiles, an entirely new principle of applying a sueded or doeskin type of texture is utilized. There is really no brushing or sueding or needling or teaseling; merely an incredibly fine and fantastically uniform cutting operation. You will appreciate the fact that the word fantastic is used advisedly when you learn that more than 100 filaments constituting a single thread must be cut the same length.

This makes a pile fabric out of a piece of woven goods, a new kind of pile fabric which may be defined as one characterized by a precision-controlled nap. Not only may the Shepardene texture be applied on a tissue-fine cloth four one-thousandths of an inch thick, weighing 1.6 ounces a yard, but also on heavy fabrics weighing 32 ounces a yard. It can be applied beautifully to all fabrics that have been traditionally teaselled, and it can be applied with equal ease to fabrics that could never be teaselled before, notably those with a hard face that would resist sueding to the point of being torn to pieces. For example, materials as hard and intractable as balloon cloth are given the superfine pile surface that is characteristic of Shepardene — with every single filament cut identically the same way to identically the same depth.

Secret is Engineering Precision

What is the secret of the unheard of degree of control necessary for so fine an operation? Part of the explanation lies in the machine's huge mass, which is indispensable for the requisite delicacy of control. One gets a hint of this in a counter weight of 20 tons hooked up in such an incredible way that you can easily move it with a single finger. Electronic controls enable the operator at his desk to balance and blend the various pressures and speeds and forces with micrometer exactness. The part he plays is like that of the radio engineer who blends the various acoustic elements in a musical broadcast. Pressures are measured in terms of pounds per square inch and must be balanced with the speed of the various sueding elements and the rate of the fabric's travel through the machine.

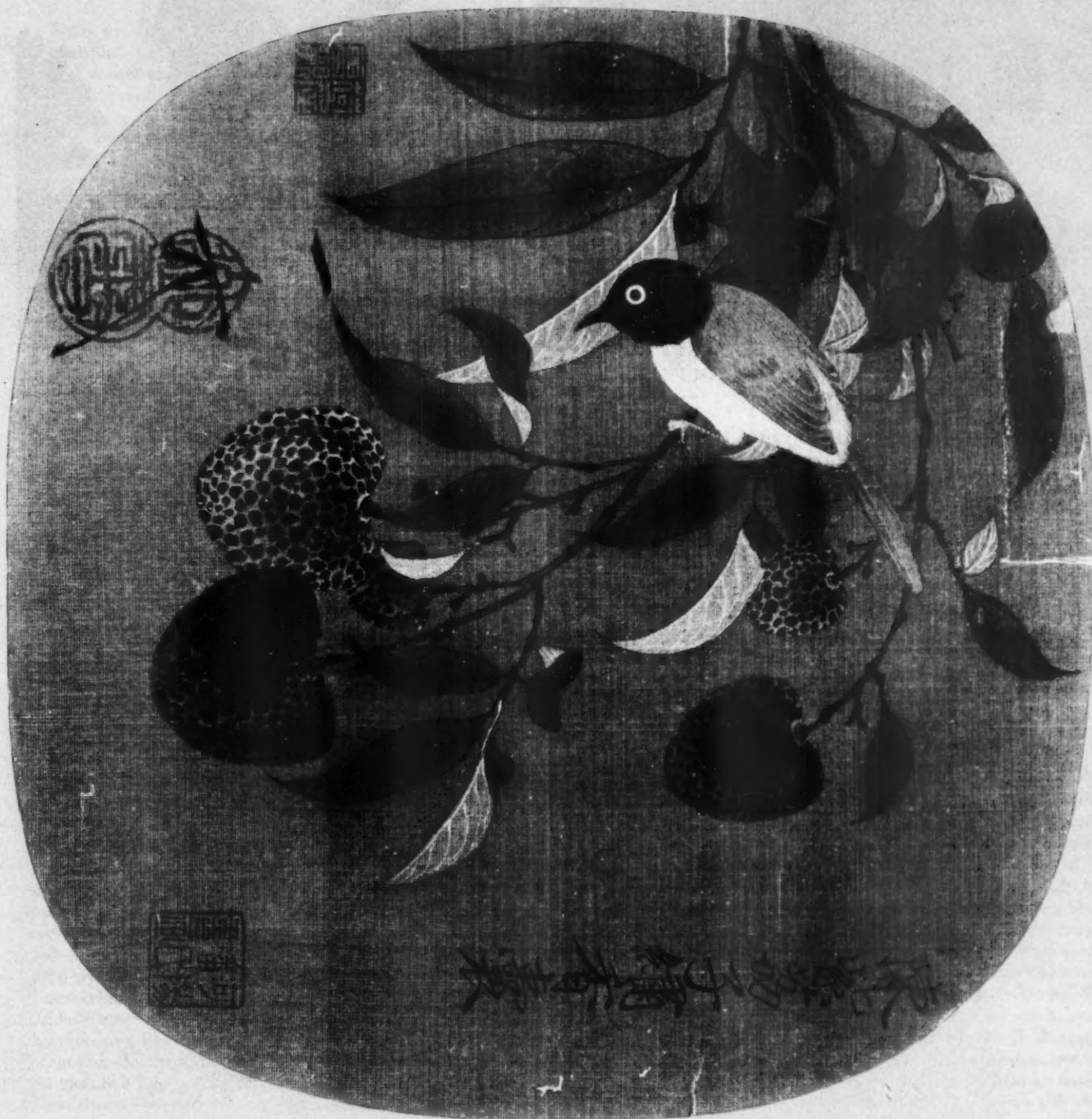
Every type of fiber and every type of fabric, woven or knitted, is grist to this mammoth mill. Finishes involving resins and other chemicals may be applied on a Shepardene surface the same as they would be on an unprocessed fabric. You can thus obtain the benefits of crush-resistance or water-repellence, along with the new fine pile texture. Adding these considerations to everything else, you will hardly be surprised to learn that we are talking about the only machine of its kind in the world.

REFERENCE CHART for SPOT and STAIN REMOVAL in care of CLOTHING

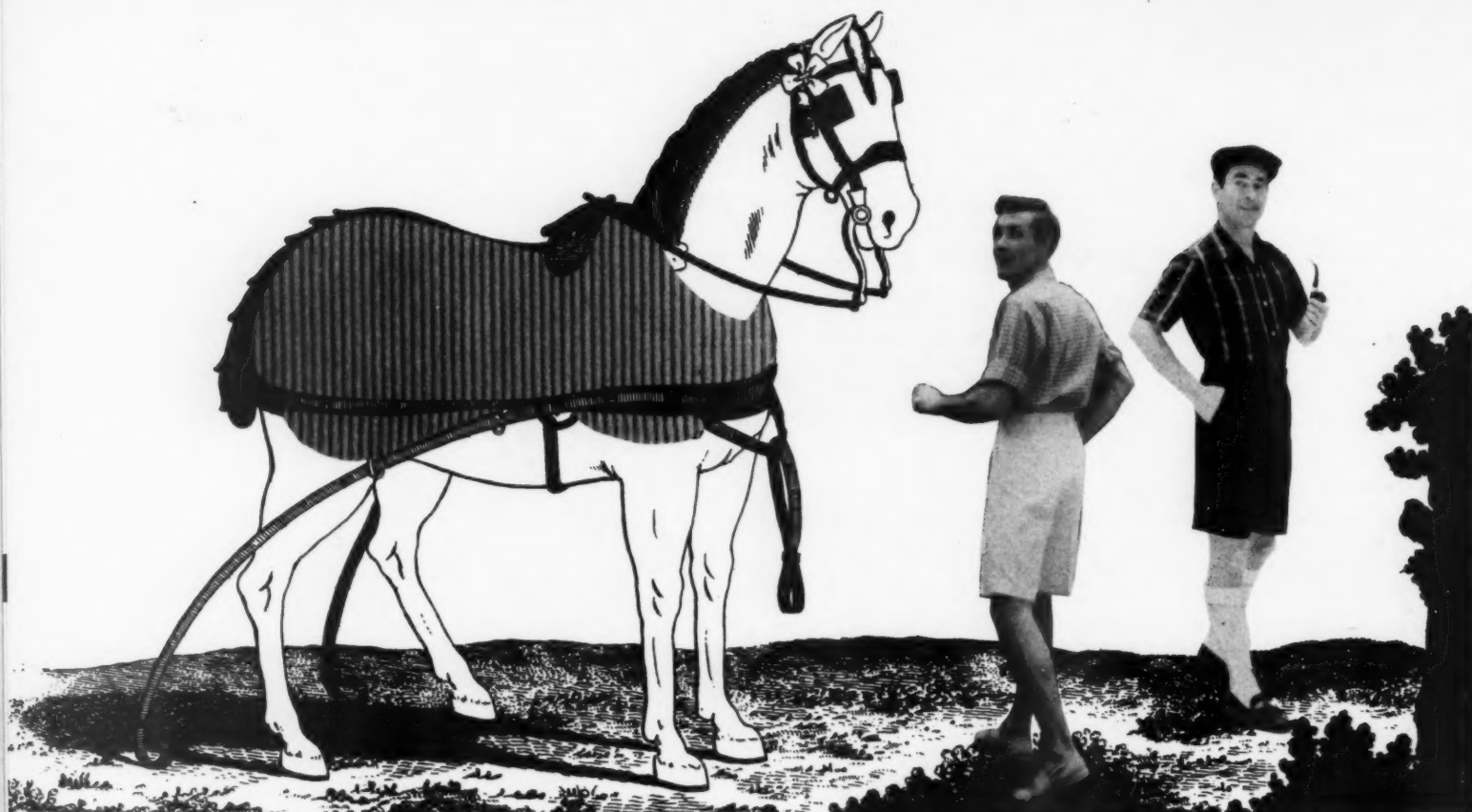
The following chart is for general reference. The following precautionary points should be kept in mind:

1. Bleaching agents should not be used on dyed fabrics.
2. For a bleach on animal fibers, use peroxide; chlorine should never be used as a bleach on animal fibers.
3. For a bleach on vegetable fibers, use any bleach such as peroxide or chlorine.

Spot or Stain	Material	Treatment	Procedure	Spot or Stain	Material	Treatment	Procedure
ACID	Any	Water and household ammonia	Sponge	IRON RUST	Cotton, linen	Treat with weak solution of oxalic acid and then with ammonia	Acid applied to stain with glass rod; on disappearance of stain apply ammonia and rinse with water
ADHESIVE	Any	Carbon tetrachloride	Sponge, then rub	LEAD PENCIL	Any	Try erasing. Soap solution	Sponge carefully
BLOOD	Any	Lukewarm saline solution	Immediately soak and then use regular laundry methods	LEATHER	Any	Soap and water	Sponge vigorously but with care
BLOOD	Any	Solvase in solution	Immediately soak and then use regular laundry methods	LINSEED OIL	Any	Carbon tetrachloride	Sponge and rub
BLOOD	Heavy goods and wool	Use raw starch paste as absorbent	Keep applying to spot until it disappears	LIPSTICK	Any	Use colorless grease such as petroleum jelly or vaseline. Follow with carbon tetrachloride.	Rub in the grease; then sponge well but evenly
BLUING	Any	Soap solution; use solution of soap and water or sulphonated oil and water. If made in stock solution, the addition of 1 part of ether to 30 parts of solution will be of value in spot removal.	Rub carefully	MERCURIO-CHROME	Any	Soap solution, bleach and then water	Sponge well
BUTTER	Any	Carbon tetrachloride	Sponge and rub	METALLIC STAINS	Any	Acetic acid	Sponge carefully
CANDLE WAX	Any	Carbon tetrachloride	Sponge and rub	MILDEW	Any	Soap and then bleach	Wash well before using bleach
CANDY	Any	Water and soap solution	Sponge and rub	MILK	Any	Soap solution	Sponge and rub
CHEWING GUM	Any	Carbon tetrachloride	Sponge and rub back of stain	MUD	Any	Allow to dry, brush, sponge from back with soap solution	Sponge with water
CHOCOLATE	Any	Water, soap and then bleach, if possible	Sponge and rub	OLD PAINT, OLD VARNISH	Any	Equal parts of alcohol and benzene, or use turpentine	Sponge vigorously but with care
COCOA	Any	Water, soap and then bleach, if possible	Sponge and rub	PAINT	Any	Turpentine or benzene	Sponge vigorously
COFFEE	Any	Water, soap and then bleach, if possible	Sponge and rub	PENCIL MARKS	Any	Try erasing the marks. Soap and water may help.	Rub the detergent used on goods carefully
DYE	Any	Water, soap and then bleach, if possible	Sponge and rub	PERSPIRATION	Any	Difficult stain to remove. Use a soap and water solution. If peroxide is used, take particular notice of the bleaching properties involved.	Sponge with utmost care
EGG	Any	Water and soap	Sponge after scraping	SALAD DRESSING	Any	Carbon tetrachloride	Sponge carefully
FRUIT	Any	Soap solution, then bleach	Sponge and rub	SCORCH	Any	Soap solution and bleach	Sponge
FURNITURE	Any	Soap solution, then water	Sponge and rub	SHELLAC	Any	Alcohol or benzene	Sponge with care
POLISH	Any	Soap solution	Sponge and rub	SUGAR	Any	Warm to hot water	Sponge well
GLUE	Any	Alcohol	Sponge and rub	TAR, ROAD OIL, CREOSOTE OIL	Any	Carbon tetrachloride	Sponge with care
GRASS	Any	Carbon tetrachloride	Sponge and rub	TEA	Any	Soap solution (difficult spot to remove since it is tannic acid)	Sponge immediately
GREASE, OIL	Any	Carbon tetrachloride	Sponge — from back of fabric first	TIN FOIL	Any	Soap and water	Sponge
GUM	Any	Carbon tetrachloride	Sponge — from back of fabric first	TOBACCO	Any	Hot water and soap; bleach, if necessary	Sponge; the degree of intensity depends on depth of stain
HAIR OIL	Any	Dry spotting agent; 1 part each of chloroform, benzol and carbon tetrachloride	Sponge and rub	VARNISH	Any	Alcohol or benzene	Sponge with care
ICE CREAM	Any	Water, soap and then bleach, if possible	Sponge in sequence	VASELINE	Any	Carbon tetrachloride	Sponge with care
INDELIBLE	Any	Alcohol or soap solution	Sponge and rub well	WATER	Any	None	Steam carefully — wash entire garment
PENCIL	White goods	Soap solution	Sponge and rub the fresh stain	WAX	Any	Carbon tetrachloride	Sponge and rub
INDIA INK	Any	Water, soap and then bleach	Sponge and rub				



A BUNCH OF PURPLE LICHEES, by HSU TSUNG (Sung Period). *Courtesy The Metropolitan Museum of Art*



The CHICO corduroy walking shorts illustrated, made of a Raydene corduroy by St. George, are tailored by ESQUIRE SPORTSWEAR. They will be featured in a forthcoming issue of GENTRY, for men who like good looks combined with comfort.

CORDUROY... *workhorse fabric transformed into a high fashion favorite*

Old corduroy, workhorse of fabrics, was noted for its rugged durability and low cost. In recent years fashion designers in all fields, availing themselves of the developments in corduroy fabrics, have made them one of the most popular all-round fashion fabrics in use today.

Not too long ago, perhaps even in the 30's, you could walk into a department store and find corduroy in only one or two sections. You would find it in (1) utility wear, particularly men's work-clothes and boys' pants, and (2) hunting jackets.

The old corduroy was a stiff, durable fabric . . . so stiff, in fact, that pants were referred to as *whistle britches* because they made a sibilant sound as the wearer moved. In recent years this honest, well-wearing fabric has been refined by textile technicians into a light, supple, bright-with-color fabric that has invaded practically every part of the fashion world.

When technical improvements made it possible to reduce the width of the wale, thus making the fabric supple, many things happened. Richer hues in dyeing became possible since it had not been possible to dye corduroy in its original weight. This opened up new possibilities for both fashion and decoration.

At this point, it is important to evaluate the possibilities of corduroy in the home furnishings field. Corduroy is an ideal fabric for home furnishings. Despite many handicaps, such as the 36" or 41" width, and the necessity of going into the dress department to track down the fabric, the consumer has persistently refused to relinquish this desirable furnishing fabric.

Why has the housewife been so attracted to corduroy for home decorations? She sees in corduroy (1) price appeal; (2) durability (it is the pile, not the fabric itself, that takes the wear); (3) finishes that insure wrinkle-resistance, spot-resistance, water-repellency; (4) affinity for rich, deep hues, delicacy, clean print-

ing; (5) an infinite variety of prints, with a range from florals to geometrics, with many effects that bring out surface interest.

The old corduroy was the workhorse of fabrics, noted for its durability. Its market was contingent on two factors: corduroy's ruggedness and its low cost. Few weavers were able or willing to produce it in fine cords, and few apparel manufacturers were able to see the possibilities of medium and fine wale corduroys.

In recent years, however, the popularization of corduroy for campus wear, and its development as a lighter weight fabric with more and thinner cords to the inch, has effected a fundamental change in the market. The new corduroys are softer, more pliable, more colorful, and available with a greater luster than the fabrics of generations past. And with the fabric improvements new markets have opened. Jackets, coats, shirts, slacks, and a variety of women's wear are manufactured from the material which once was almost exclusively a trouser fabric. When the United States entered World War II, some sixty million yards of corduroy were being processed annually in this country. Corduroy production in America has steadily increased to an all-time high of more than 93,000,000 linear yards.

Because of the designer response to the new corduroys, both plain and printed, a number of mills are today gearing production to special needs, especially for sport and resort apparel. Lines in this field feature both pastel and bright colors, with prints developed for ensemble effects in the same basic shades.

The new pinwales, finer and lighter than previous weaves, are demonstrating their usefulness for early season and cruise wear, where wind protection is a fashion factor.

Many promotions involving both prints and plain corduroys are scheduled for the coming season. One firm has developed a line of screen prints on fine pinwale, which is a distinct innovation. The technique used permits a varied use of color and design, and permits multicolor effects not previously attempted in corduroy. Another new idea in this field is the circle print. This is a design featuring a small crescent to encircle the waist. The crescent is followed by half circles down the skirt, increasing in size to the bottom, or hemline. Repeat pattern is two yards in length; thus four yards complete the design. Some corduroy firms are now dyeing from 200 to 300 colors every season. Current color cards may show as many as 75 shades for one staple.

New finishes are now available. Several of the corduroy style leaders have introduced a wrinkle-resistant finish, which permits the fabric to retain its lustrous, velvety look after repeated washings. This finish, which has long been in the experimental stage, is now commercially available, and eliminates the bruising or matting or pile which formerly was a consequence of laundering. Water-repellent finishes are also available. These adapt corduroy to use in women's raincoats, and have advantages for men's and children's outerwear. Other new developments include spot-resistant finishes, and glacé finishes—the latter providing a stiff surface for prints and sculptured effects.

(please turn)

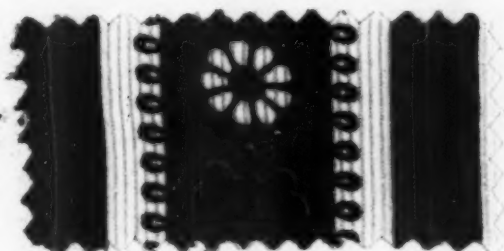
Origin and History of Corduroy

Corduroy is an historical fabric, oriental in origin. It is probably a development from the cotton and linen pile fabrics developed in Egypt and Asia Minor. Its early name was "fustian," a word sometimes linked to Fustade, a place on the outskirts of Cairo, but is actually a derivation from the Latin "fustis," a stick of wood. Because the early corduroys were cheap, coarse fabrics, poor imitations of fine velvets, the word fustian has come to mean pompous, inflated, bombastic. Hence the lines of Pope:

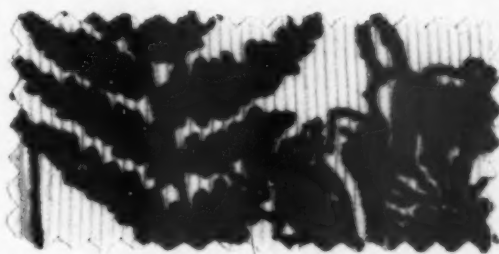
*He whose fustian's so sublimely bad,
It is not poetry, but prose run mad.*

In later times the mills of Genoa specialized in fine velvets and corduroys, and the latter were known in the trade as *Genoa* and *Double Genoa*. The present name is a consequence of French interest in corded fustian, and the attempt of the French mills to give it prestige associations by naming it "the King's cord."

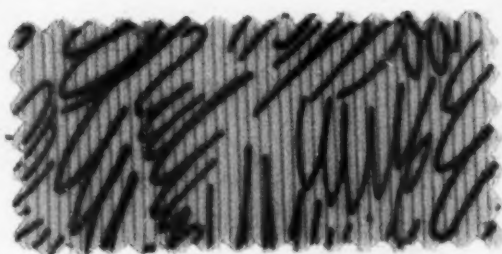
The modern acceptance of corduroy is due largely to the activity of English mills during the formative period of the power loom industry. Corduroy was not manufactured in the United States until 1790, when an attempt was made to produce weaves which would enable American markets to be independent of British sources of supply.



All-cotton washable overprint vat-dyed pinwale for women's and children's wear, from JUILLIARD.



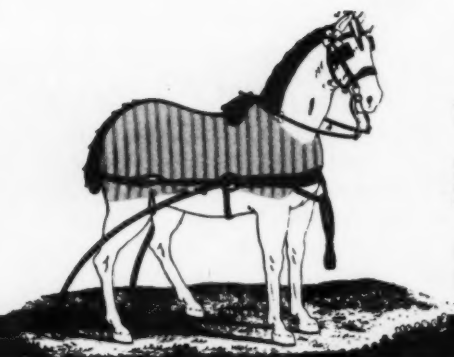
All-cotton screen-printed pinwale corduroy for apparel and decorative fields, from CROMPTON-RICHMOND.



All-cotton washable, vat-printed corduroy for apparel and decorative uses, from HOCKMEYER.

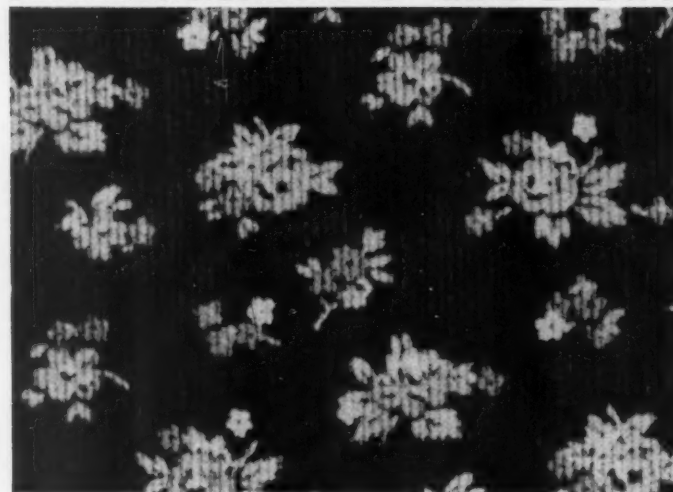
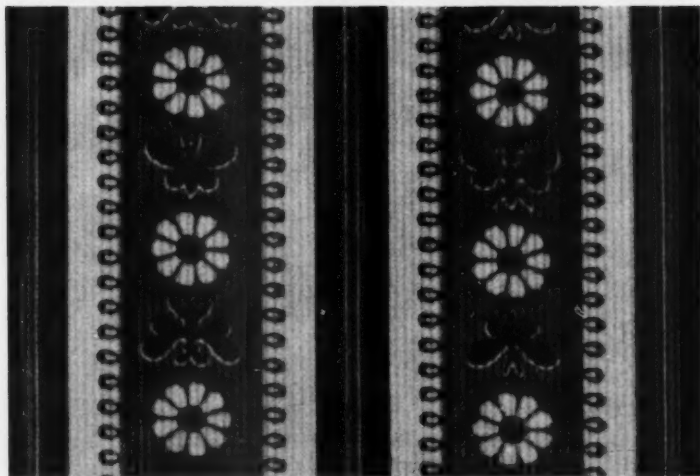
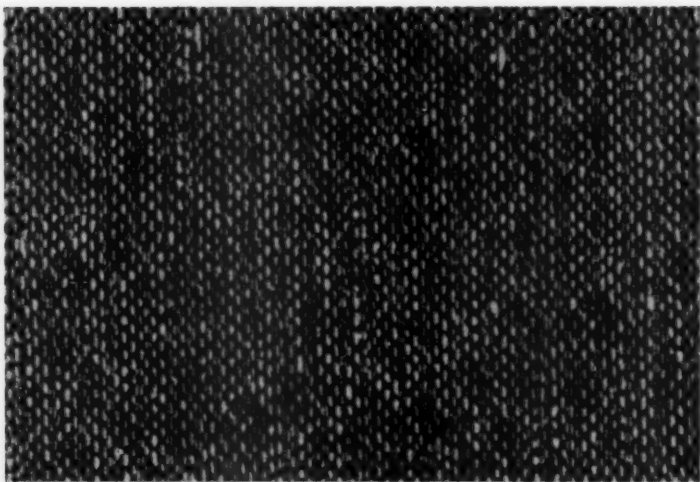
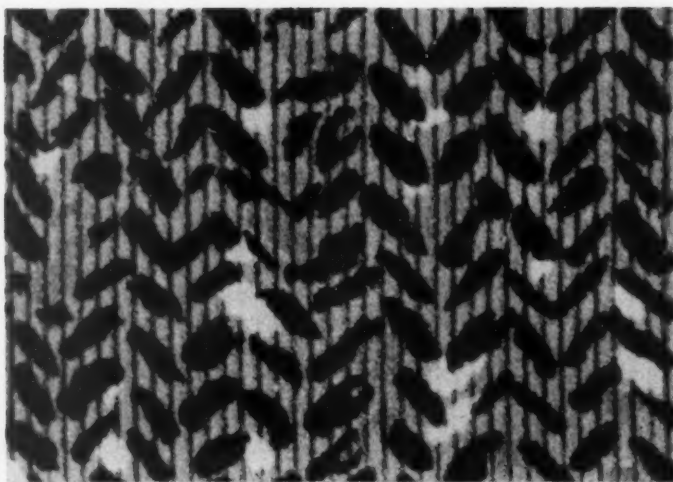


All-cotton open season corduroy for men's and women's apparel applications, from GREENWOOD MILLS.



***What You Should Look for
in a Fine Corduroy Fabric***

1. A soft pliable hand which lends itself to easy draping.
2. Sharply defined, well raised, straight cords.
3. Bloom—the quality which denotes full dye penetration in depth.
4. Firmness of pile.
5. Clean, lustrous finish free from lint.



The Making of Corduroy is a Fascinating Process

Corduroy Yarns

Since corduroy is essentially a fabric with a soft, fluffy pile and strong, flexible back, it requires yarns made from long staple cotton. Most mills prefer for such weaves the yarns made from Egyptian, Pima and other quality long staple cottons—which are characterized by superior strength, luster and evenness. The finer corduroys are made from combed yarns. For uniform pile construction and color penetration the yarns must be even.

Weaving

Corduroy is invariably woven with one warp and two fillings—ground and pile. The ground, which can be either a plain or twill weave, is formed by a tight interlacing of ground filling yarns with the warp ends. And while the ground is woven, the pile filling interlaces with one or more warp ends, creating a rib effect. There are two standard forms of pile weaves: *V* and *W*. In the *V* construction, each pile yarn interlaces with one warp end. The *W* construction, which is stronger, and will not permit the pulling out of yarns when cut, results from an interlacing of each pile yarn with three warp yarns.

The density of the corduroy pile is determined by the number of pile filling yarns used, as well as by the ratio of the size and number of pile filling to ground filling yarns.

Cutting

After weaving, corduroys still contain floating filling yarns. To develop a pile, these floating yarns must be cut. And to prevent a toothy appearance, and maintain a straightness of the pile, each floating yarn must be cut in the exact center of its float. The precision cutting operation can be performed by hand—an operation which requires skilled workers—or by special machines. The machines designed for this purpose require an individual knife for each rib, or wale, of the fabric to be cut. Thus to cut a forty-inch-wide roll of corduroy which runs ten wales to the inch, 400 cutting knives are required. The cutting procedure varies with the type of corduroy to be processed. All the wales of a wide or medium wale fabric can be cut in one operation. Pinwales are twice fed through the cutting machines. In narrow wale fabrics alternate wales are cut in each of two successive operations.

In between the pile wales, there will be a low place, a valley, in the cloth. These *valley areas* are part of the overall back fabric

or base fabric and they are made by the base plain or twill weave threads to form the foundation of the cloth and to give it firmness and support. The ground construction or backing fabric helps to hold the pile threads in their respective places in the cloth.

The two types of bound-in threads are held in place by either a *V* formation or by a *W* formation. The latter arrangement is better for binding and firmness with regard to holding the filling pile threads or tufts in place.

Finishing

Expert finishing is an important part of corduroy processing. Much of the quality of the fabric is a consequence of this stage of the manufacture. The fabric is first scoured, to remove all foreign matter, and to unravel and soften the pile for the brushing. The first brushing occurs usually while the fabric is still wet. The brushing opens, spreads, and raises the pile arms, strengthens the fiber, and forms the characteristic ribs. Again, it brings together the two ends of the cut pile yarns and forms them into a single pile.

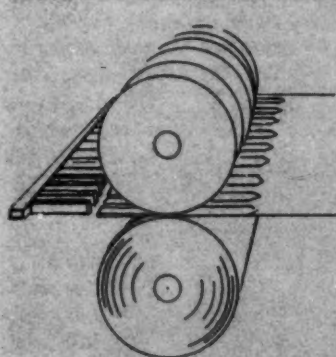
After further repeated brushings, both wet and dry, the fabric is singed. The singeing process removes all loose and ragged pile ends, giving the fabric uniformity of height and a characteristic tan appearance. Colors may be singed one, two and three times. The fabric is then bleached to remove the scorching. Once this process is completed, another brushing prepares the fabric for the final stage in its processing—dyeing. After dyeing, and further wet and dry brushings, the goods are waxed. Waxing sets the pile, prevents soiling, enhances weaving qualities, and together with further brushing adds luster to the finished fabric.

Corduroy Today

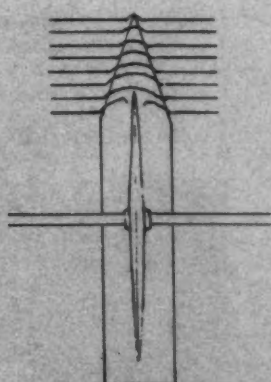
The general trend, this season, is toward a wide use of the new light, soft, fine corduroys, with pinwale accounting for the greatest yardage. Most of the new corduroy is all cotton, although some has rayon added for greater luster. Experiments with the new synthetics, other than rayon, have so far not been successful. Most of the man-made fibers contribute little to corduroy's function or appearance, and add to its cost.

The pinwale in most general use comes 16 ribs to the inch. The finest, 21 ribs to the inch, is being made for infants' wear, men's shirts, and evening clothes. Wide wale corduroy generally runs 5 to 8 ribs to the inch. Fashion interest in this weave is at present spotty. Most of the new fabrics are loomed in 36-inch widths. Some mills, however, are experimenting with the new 41-inch width, which provides more advantageous cutting for trade and home sewers. For the decorating trade, a few mills are looming fabric in 54-inch widths.

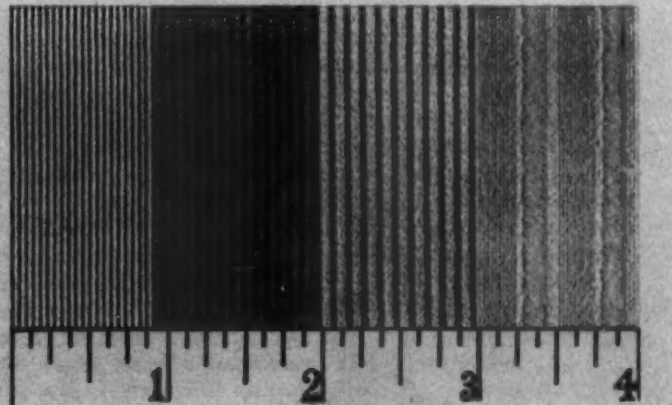
CUTTING A CORDUROY FABRIC



Circular rotating cutters in place above the cloth alternate wales, in which cutting guides run. Below, the cloth winds around roller.



The cutting guide is driven into alternate filling-ribs by small hammer strokes, lifting the threads into position for the cutter.



The four examples of corduroy shown may be classified according to the number of wales to the inch. At the left is a pinwale with 23 wales per inch; at center, two medium-wale fabrics with 14 and 10 wales per inch; at right, a wide-wale corduroy with two wales per inch.



FRANCES PRISCO...
TED BROWN...
and **CORDUROY**

IT IS PRETTY WELL AGREED in the year 1954 that, if one wished, one could dress from head to toe in corduroy and one could furnish a home, in any period décor, with corduroy, color and pattern being the deciding factors in making that home more formal or less formal.

In estimating the vitality of this fabric in the world of fashion, we have the deceptively simple styling of Frances Prisco of Ted Brown as an outstanding example. This designer, by choosing top quality fabrics, executes styles in corduroy that are so functional that they carry a girl from business to a formal date with complete fashion rightness.

Frances Prisco glamorizes corduroy for the young sophisticate with the junior figure. She was one of the first American designers to see something more in corduroy than just another back-to-school fabric. The results of her styling and Mr. Ted Brown's organizational thinking have been enormously gratifying to them both and is another proof that to break away, fabric-wise, from the usual spells profits.

Miss Prisco's travels take her from coast to coast within this country to see what the American girl is wearing and, more important to Frances, to see how she is living. Actual contact with her market enables Miss Prisco to feel more sure of designing within the framework of that living. She is definitely not a follower of European couture because she feels that it caters too much to one kind of woman . . . the kind that lives a completely leisurely life. And she believes that the requirements of the average, active American woman demand clothes which are functional and at the same time enhance the wearer.

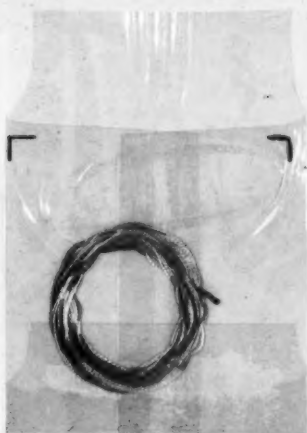
It is a source of profound satisfaction to Frances Prisco — and to Ted Brown — to see her corduroy coat versions worn in so many of the smartest places in every part of the country.



Each season Frances Prisco designs her version of a coat dress. Illustrated here are two distinctive examples. The cut of the garment, the color, and the use of top quality corduroy in each case imparts an unusual look. This season's version features shawl collar, full-swing skirt, soft kitten's ear corduroy.



A very fine sheer cord fabric designed chiefly for use in the apparel field, from
MERRIMACK.



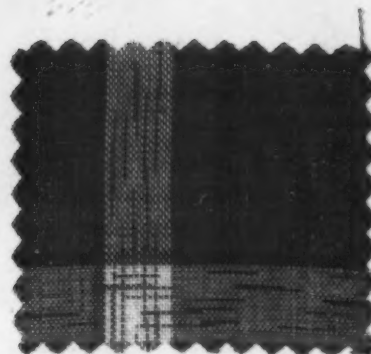
A novelty spun rayon yarn from TRYON PROCESSING CO.



the interrupting element . . .

COLOR SPACE-DYED YARNS

Modern application of a primitive technique brings new possibilities for textile design, styling and merchandising.



A 100% rayon fabric with Avcoset finish, completely washable and suitable for sports shirting, which has a plaid design decorated with space dyed yarn, from MOORESVILLE MILLS.

COLOR SPACE-DYEING is an ancient craft to which different local names, such as tie-dyeing, have been applied. It refers to the coloring of yarns at intervals spaced along the yarn length. When the intervals are relatively close together, you have a repeat pattern; at varying space intervals, the pattern is called random spaced.

In Malaya and Madagascar, in Arabia and Persia and in many other countries of the Orient, this form of dyeing arose spontaneously and became a part of the textile craft tradition. In many places, tie-dyeing methods were the only ones used to create pattern in a fabric. The Japanese, for instance, used until fairly recently tie-dyed yarns for the warp and weft of fabrics to produce a diversity of interesting and popular designs. Color space-dyeing flourished during the 17th and 18th centuries in European countries, and Diderot's illustrated encyclopedia gives a good description of this craft as practised at that time.

Developments in Technique

In this country, with its genius for production techniques, mechanized methods have replaced the ancient laborious ones of applying color space-dyeing. The processes today employ many variants of customary techniques, which result in the achievement of complete dye penetration, fast color, washability, etc., whether applied to coarse or fine twisted yarns. The product is often referred to as multi-colored, cycle-dyed or ombré yarn. The new techniques can be used for dyeing yarns in skein or in warp form and can even be applied to yarn packages. Space-dyeing of warp is, however, limited to coarser sizes.

Space-dyeing can be accomplished, within the practical limits of processing, on any size or type of yarn and the spacing can be arranged to repeat at intervals of from one-quarter inch up to two feet or more. The shades, number of colors, fastness and use of cross-dyeing can all be varied according to specification and the decorative requirements. In the hands of the versatile designer these yarns present many possibilities.

Some Typical Applications

In applications where a need is felt for added design interest, space-dyed yarns can furnish invaluable aid to the textile stylist and colorist. Monotonous fabric patterns can be modified and a new element injected by introducing a diversion in the form of color variations. The techniques generally use a counterpoint of pattern repeats and random color space-dyeing as primary and secondary motifs.

As a decorative factor these yarns are being used to form variegated color bands on the cuffs of children's hosiery, or as

warp stripes or in variegated clocks in men's hosiery. They can similarly be used for modification of stripes, plaids and jacquards. In repeat patterns color space-dyed yarn can be used as part of the primary effect where cross-dyeing or over-dyeing is used to tone and blend the color into a more or less subdued ground. Small and narrow articles like gloves, scarves and ribbons can be decorated with random space-dyed yarns very effectively. Patterning and spiralling due to a pattern repeat, does not as a rule show up sufficiently to give trouble.

Color space-dyed yarns are often used for the identification of brand products. Many of the nationally advertised lines of women's hosiery and men's underwear have adopted as a signature mark space-dyed yarns knitted or woven, in special colors, into their product. Choices of different color combinations and varying lengths and color spacing, even in the same yarn, create an endless variety of possibilities.

Color space-dyed yarns are also used to form patterns in narrow fabrics. The color spaces are relatively longer for this type of application and the effects created are in the nature of stripe and plaid patterns.

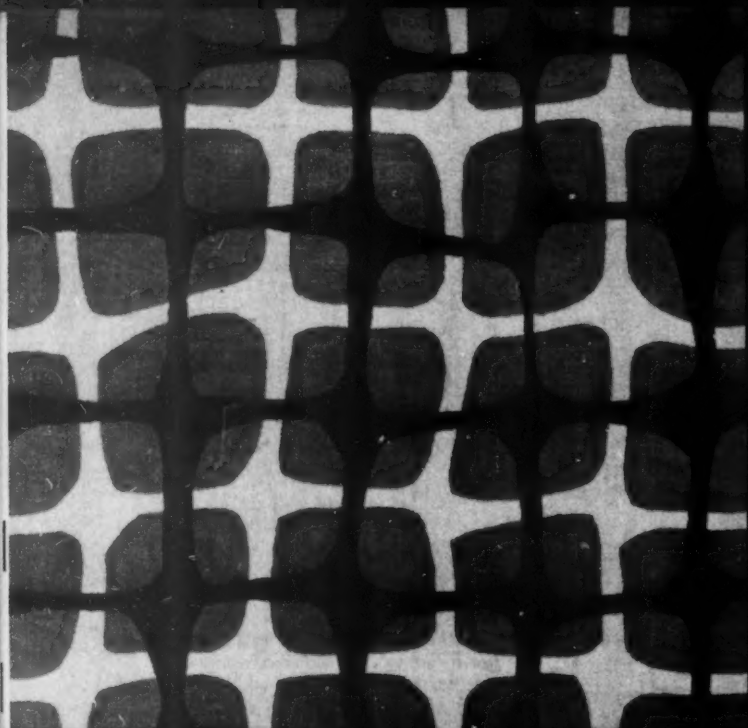
Random space-dyeing may be used to produce overall effects. Here the mode of application is the reverse of that used with pattern repeats and the space-dyed yarn can be made the dominant motif, other yarn variations being used to provide design relief, secondary interests and harmonies.

Basic Nature of Interest

Humans instinctively like the things of nature. Man's whole heritage, tradition and make-up are based on surroundings which do not possess any true repeat. In trees of the same species there are never two exactly similar; the form constantly varies and no two clouds in a clear blue sky are ever exactly alike. And it is in nature that man finds his standards.

The printing roller, invented for the reproduction of hand-made designs on fabrics, is limited to an exact repetition of a design over a larger or smaller area, and it therefore loses one of the basic requisites of true harmony — the introduction of an interrupting element or note of variety. Man is continually, and often unconsciously, seeking for new ideas to add variety and something of nature's timelessness to machine output.

The manufacture and utilization of color space-dyed yarns comes into this life-giving category, because they can be used to give greater variety and appeal to established lines of merchandise and, in their turn, become a source of increased satisfaction to the consumer.

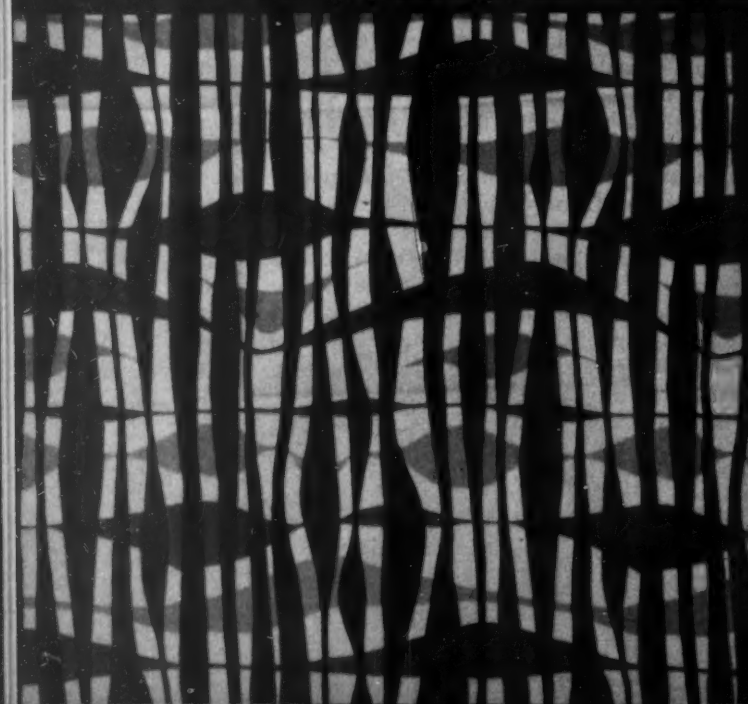


CELLO . . . executed in brown, black, green and blue.



IKAROS . . . shades of yellow, red, grey, blue, white.

MIKROTOM . . . printed in grey, blue, black and green.



BULBOUS . . . design in grey tones with black.



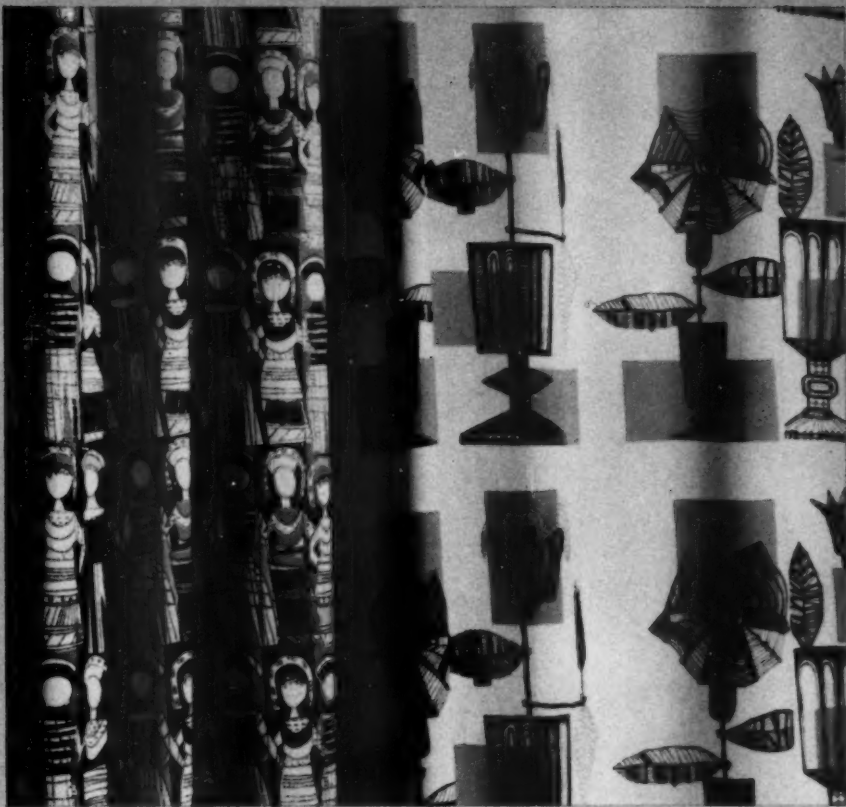
Contemporary Swedish



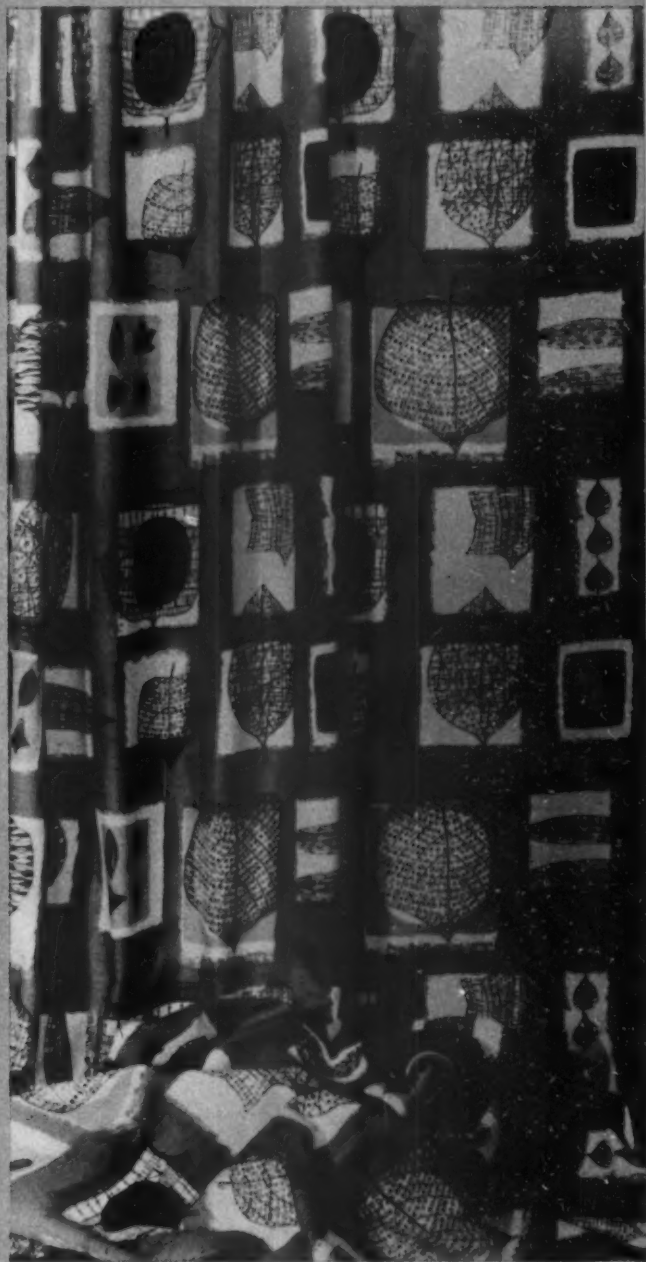
SEKTION . . . hand-print utilizing dark red with blue.

The textile designs reproduced on this page, exhibited recently at the Nordiska Kompaniet in Stockholm, are by Stig Lindberg, Swedish industrial designer whose textiles and ceramics have been seen in many countries. Photographs courtesy American-Swedish News Exchange.

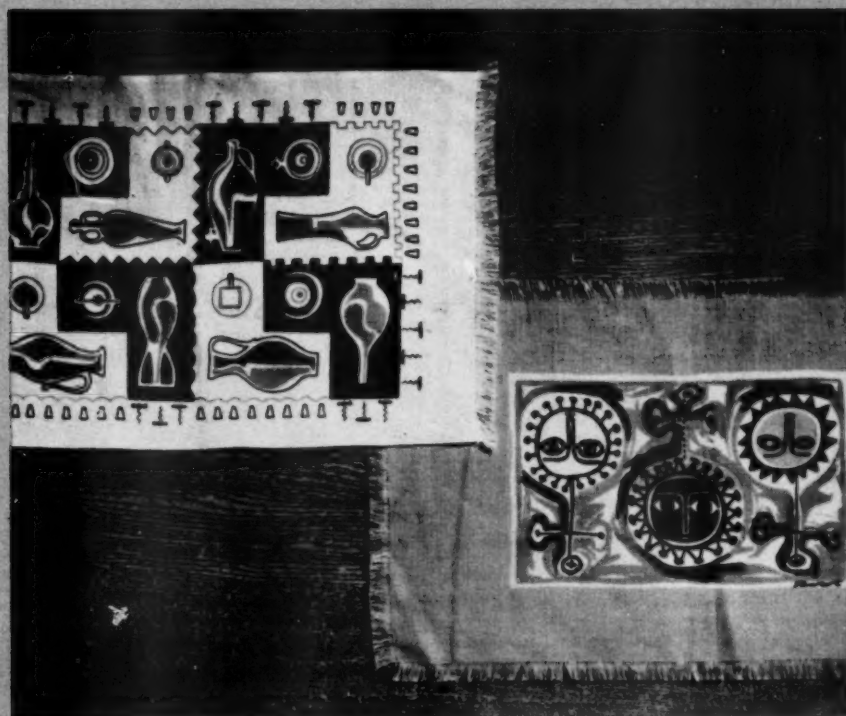
Left: FIGURES. Screen-print designed by Jacqueline Groag. Right: COMPOSITION, by Terence Conran. Both for D. Whitehead, Ltd.



FALL. Screen-printed heavy cotton crepe designed by Lucienne Day for Edinburgh Weavers.



and British Designs



Left: JUC AND BOTTLE, by John Wright. Right: SONS AND LOVERS, by Robert Stewart. Place mats designed for Liberty & Co.

Reproduced on this page are textile designs from the *Design from Britain* exhibition, arranged by the Smithsonian Institution Traveling Exhibition Service with the Council of Industrial Design in London.

COW PARSLEY. Screen-printed upholstery linen designed by L. McLintock for Liberty & Co.





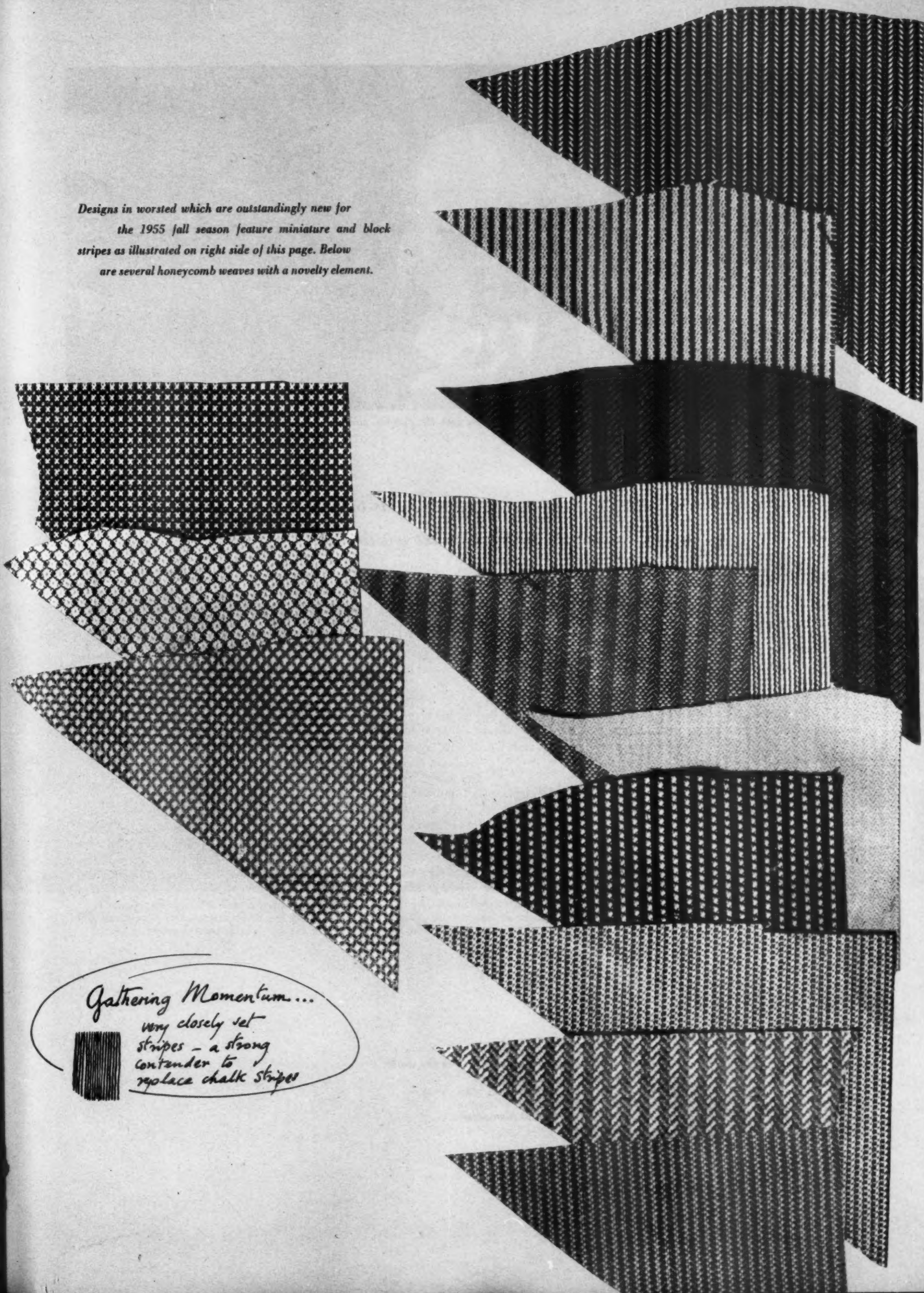
Murdocke Report on **MEN'S FASHIONS**

From London, Captain J. A. Murdocke reports newest developments in men's wearing apparel.

Center photo shows a single-breasted dinner jacket of midnight blue barathea featuring shawl collar covered in black satin with two rows of cord or rope effect. Note that the three-inch cuff is similarly finished with two rows of this cord effect. The double-breasted waistcoat has two rows of three buttons each, covered with the same material as the lapels, and has also a shawl collar finished with the cord effect described. At left above, a mole color dinner jacket in lightweight mohair material.

Alongside: There is a growing trend toward double breasted suits. Shown is one of the new models.

Designs in worsted which are outstandingly new for
the 1955 fall season feature miniature and block
stripes as illustrated on right side of this page. Below
are several honeycomb weaves with a novelty element.



Gathering Momentum....

very closely set
stripes - a strong
contender to
replace chalk stripes





Cora Caryle of American Fabrics with Mr. Frechtel and his son Leon.

FRECHTEL... his manufacturing technique is bringing custom tailoring to American middle bracket wardrobes.

HARRY FRECHTEL'S STORY is one of a craftsman whose pride in his product has not faltered in all the many years that he has operated in business. It is the story of a man who has attained fashion content and volume in his business without sacrificing fine tailoring. Store executives will agree that Harry Frechtel has been outstanding in establishing a pattern of youthful silhouette for a woman of any age with a small figure. One West Coast retail executive has made the statement that Frechtel's signature can be seen on a garment even when it is hanging on a store rack. That signature, say Frechtel's many admirers, comes from a thorough knowledge of tailoring and an innate sense of taste.

Because Harry Frechtel is primarily a tailor and is cognizant of every step that goes into making a well-fitted suit, he is able to bring custom tailoring to a wholesale operation and, when he says that his stock is as good as his individual samples, it is no idle boast. Proof of this statement is the fact that his firm has had a continuing relationship with most of the top stores of the country.

Fashion-wise, Harry Frechtel sees no radical change in the

offing, but he believes that the trend is becoming more and more pronounced towards lighter weight fabrics. He has just come up with a mixture of silk, mohair and alpaca which gives the fabric the lightness, durability and crease-resistance which are demanded in our life, in which casual living and more travelling are today's two most important factors. He claims there is nothing to compare with our American mills and he cites Forstmann as the finest mill in existence in the world. Nevertheless, he often goes abroad for fabric inspiration because foreign mills are willing and are able to experiment with small yardages. He believes that the fabric man and the designer must work together to anticipate the consumer's demand for novelty, quality and comfort — in short, for interesting fabric that performs well.

Harry Frechtel is an example of a tradition that, in the opinion of many, must be encouraged. This is the tradition of the highest possible standards of tailoring brought to this country by men like Monte Sano, Carmel, Mangone, Zuckerman . . . a tradition that seeks perfection and scorns the mere chopping out of garments.



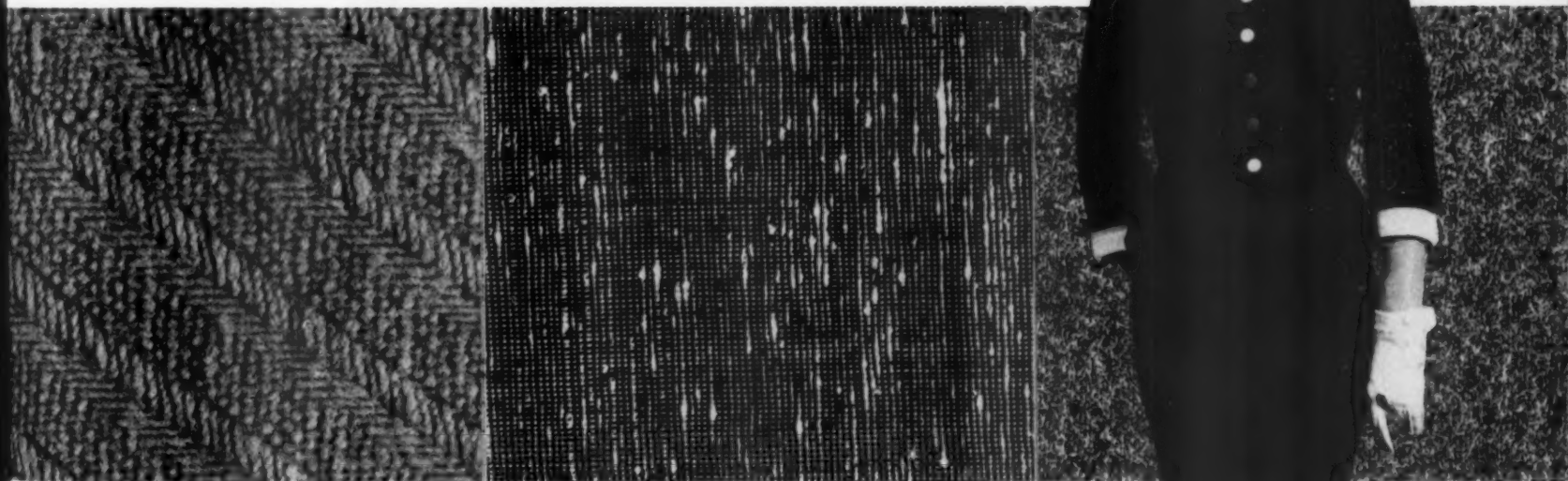
HARRY FRECHTEL

Harry Frechtel . . . his achievements in the world of fashion are solidly based on:

- 1) tailoring subtleties
- 2) a flair for striking fashion detail
- 3) fabric interest



Made of Staron's silk-and-worsted, this two-piece suit is typical of Harry Frechtel's skillful designing. The eight-gore taffeta-lined skirt, scarf forming a low bow neckline, rounded shoulder, and buttons placed at the side back of the jacket are unusual details of this suit.



Above left: Diagonal weave with slubs in a 100% wool coating by Anglo Fabrics. Above right: Dacron, silk and worsted blend by Miron adds up to fashion interest and durability. Far right: Yarn-dyed tweed suiting of wool with rabbit's hair for extra softness, by John Barr.



Botany's 100% worsted in navy makes this Frechtel two-piece suit with slim pencil line skirt, dropped shoulder line and glove-length sleeve. The white stitched linen collar and cuffs and the seven gold penny buttons in front are touches that add fashion content.



PICASSO: CLOWN SEATED WITH BOY.
Baltimore Museum of Art, Cone Collection. Plates Courtesy Skira





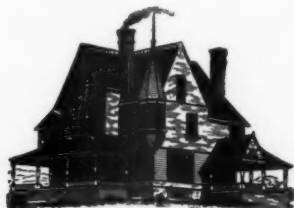
COLOR AS A PRACTICAL MEDIUM

By HOWARD KETCHAM

IN BUSINESS TRANSACTIONS:

In Connecticut, some years ago, I was faced with the problem of disposing of my home, a pleasant, large, white colonial house with blue-black slate roof. Real estate men, with long faces, solemnly assured me that there was small hope of selling it in competition with the many other homes offered by the men entering armed services. I placed an ad in the Sunday paper, spent Saturday supervising painting the shutters and exterior trim with a fresh coat of a carefully chosen blue, and waited. Sunday night, the buyer was found.

The blue selected was of a shade which made the white exterior of the house look whiter and more inviting. With a small expenditure of effort, the result had been achieved through the power of two colors to affect each other when seen together.



Once I published the results of a test I had conducted for a manufacturer of electrical equipment who planned to sell his newest gadget by a direct-mail campaign. We tested the pulling power of various combinations of color for envelope, stationery and printing ink. The best response was obtained with envelopes in a certain blue, and a particular light red letterhead. The manufacturer was delighted but wanted to know why it wasn't more effective to use red — the action color — on the stationery and the envelope. However, the contrast of light red and dark blue played a big part in inspiring action. Tests have shown that blue has greater remembrance value.

IN SPORTS:

Amos Alonzo Stagg, whose football teams put a premium on resourcefulness, added the power of color to his strategic reserve one year. He painted the team's dressing-room blue, to give a relaxing atmosphere during the half-time intermission, but provided an antechamber in red for a more exciting background to his last-minute pep-talks. The fiercely competitive Knute Rockne added his own variation. He kept the Notre Dame gridmen keyed up through the intermission in a red dressing-room, and lulled the visitors with a soporific blue.

IN MODERN LIVING:

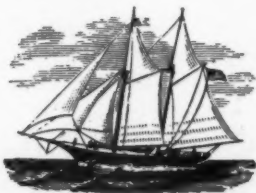
A Schenectady scientist has solved the problem of letting his cat in and out of the house. He has

installed a cat-door in the front door, rigged up to an electric eye which opens automatically, as the doors at certain railroad stations do. The special feature of this electric eye is that it responds only to the color of his pet and ignores felines of another color.

Most flies have a distaste for blue, and blue was used in the South Pacific, during the last war, to keep flies from troop quarters. Those blue polaroid reflectors which were applied as outside sunglare protectors on the windshields of cars can be used to shoo flies from the windows of your home in summer.

Last year, the Mutual Life Insurance Company erected a new skyscraper on Broadway; it was decided to provide a huge *weather star* atop the building, to signal to millions of New Yorkers within a five-mile radius what weather to expect. The ten-foot plastic star, 526 feet above the ground, was constructed to beam out different colors. Now when New Yorkers see a green star above the skyline they look forward to clear weather; an orange star means cloudiness; flashing orange, rain; and flashing white, snow.

The marine industry and owners of pleasure craft learned that white and green ship hulls under water attract fewer barnacles, and save the expense of a costly cleaning operation. Ocean liners on tropical cruises are painted white, and the cabin interiors are held 10 degrees cooler, because of the power of white to reflect heat. The same principle makes transport airplanes and interstate buses with white or aluminum roofs more comfortable for passengers in summertime, and



saves thousands of dollars for oil companies whose white or aluminum painted gasoline storage tanks shed summer heat, thus saving fuel evaporation.

In your own home, you can save money by remembering that white radiators give off as much heat as black radiators one-fifth larger. The modern decorators' trend for dark interiors has cost many homeowners higher fuel bills when deep hues in a room are carried out on the radiator.

AS A SAFETY DEVICE

Railroad men know how valuable color can be in attracting attention. When the Jersey Central Lines got its first diesels, the initial concern was

to prepare a color plan that would provide a warning as the silent trains approached country grade-crossings. A combination of high-visibility orange and contrasting royal blue shrieked as loud a warning as the roar of the old steam locomotives which diesels replaced.

A western railroad found it a more difficult matter to achieve the same safe results. The first diesels of the Western Pacific were painted yellow and green, till locomotive engineers complained that the colors made the train well-nigh invisible at a distance of a few hundred yards in the summertime foliage of California's Feather River Canyon and other areas. Repainted silver and black, the locomotives were camouflaged in the silver-grey desert country of Nevada and Utah. A combination of orange and black provided all-year, all-country visibility and reduced the danger of grade-crossing accidents.



Mothers have been urged to provide the same safety in dressing their children to play in the streets, and on the beaches. Bright clothes, in strongly-contrasting colors, will perhaps provide a margin of safety when a thoughtless youngster darts out into city traffic in pursuit of an errant ball. City streets and buildings provide a background of grey, buff and tan. Orange, butter yellow, blue and crimson can give the motorist that extra fraction of a second of warning.

AS A MORALE BUILDER:

We've all seen instances of the power of color to boost morale. Sometimes it's a private matter for the individual; sometimes color can do a job that means much to a nation.

During the last war, the crew of an American destroyer chipped in to pay a Boston interior decorator for a job of making their little warship more habitable in its long tours of duty at sea. Now the Navy is concerned. It won't be up to the enlisted men and their officers to pay the cost of giving combat craft a more livable atmosphere. *Habitability* has become an important Navy word up and down the Eastern coast, at Portsmouth, New London, Brooklyn Navy Yard, Norfolk and the Pentagon. • END



The old homestead at South Manchester, in which were born the family of brothers who successfully introduced silk weaving into this country, has not changed greatly in over a century. Built prior to 1838, it is shown at left as it was in 1872; right, as it is today.

A CENTURY OF TEXTILE PIONEERING

The story of Cheney Silk Mills, which exemplifies in many aspects the growth of American textile industry during the change from an agricultural to an industrial economy, provides an outstanding example of pioneering in invention, community relations, public spirit and industry.

WHO EVER HEARD of a textile enterprise which invented and manufactured repeating carbines, built schools and water, electric and gas works, built and operated its own railroad, and went into the manufacture of jeep-carrying parachutes? It sounds incredible, but it is true of the Cheney Silk Mills, whose story reads like a cross section of American life, at a time when the nation was turning from an agricultural colony to an industrial world power.

The Cheney family settled in Massachusetts in 1635 and at Hartford, Connecticut in the 18th century; in the early part of the 19th century they were prosperous farmers at Manchester. Like many others at that time, they were interested in the possibility of making fortunes out of silk culture, and they made more than one attempt, between 1833 and 1838, to raise mulberry trees and silk worms, both in Connecticut and in Georgia, without success.

It was at this point that they decided also to start silk manufacture, using as power the tailrace of an existing mill, and a factory with the grandiose dimensions of 32 by 45 feet was built and equipped. The raw silk for this manufacturing operation was imported from the Orient.

Almost at its inception the Cheney factory introduced a revolutionary silk throwing improvement in installing the New Rixford Roller, which was friction driven and avoided the breaking caused by fixed rollers.

Some Important Innovations

In 1847 Frank Cheney patented the first practical machine for making sewing silk in which the doubling, twisting and winding was done upon spindles moving back and forth on tracks. This proved to be an important discovery in view of the invention of the sewing machine. As the demand for machine

twist rapidly grew, the Chenneys began its manufacture in 1852.

About the same time experiments began in the utilization of that part of the cocoons which was too tangled to be reeled. This material was previously practically a waste, and about thirty thousand dollars were expended in experiments in adapting cotton and wool spinning machinery before success was achieved. With the commencement of spinning this waste silk product in 1855 the Chenneys virtually created a new branch of the silk industry in this country.

Another important invention made by the Cheney family in the course of a decade was the introduction of an improved spooling machine which cut labor costs greatly by enabling one worker to attend three machines at the same time.

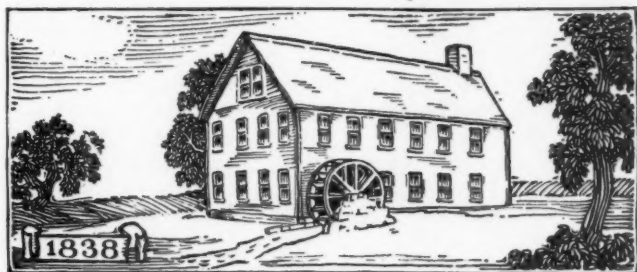
A Defense Incident

We may here digress to note the first important contribution made by the firm in the realm of national defense in the form of a repeating carbine constructed in the mill machine shop by an employee, C. M. Spencer, and patented by him in 1860. In the Civil War the Navy first became interested in this new weapon, and the Chenneys leased part of the Chickering piano factory in Boston for its manufacture. Only after Spencer had himself demonstrated the carbine to President Lincoln did the government order the weapon in quantity, and before the war ended about 200,000 were built. The plant was then sold to the Winchester Arms Company.

Expansion of Home Manufacture

One result of the war was an import tariff on all silk goods with consequent growth in home manufacture. The Chenneys took up the weaving of ribbon in 1861 on a considerable scale, and that of broad grosgrains for dress uses in 1866, the goods being

An aerial view of the buildings and grounds which comprise the Cheney Brothers Company in Manchester, Connecticut. In these buildings the many weaving and processing operations of the company are performed. Below is the first Cheney mill, built in 1838.



made from skein-dyed silks manufactured at the Company's own plant.

In 1880, to inaugurate the weaving of plush and velvet, some model looms were imported from Germany. This very important branch of silk weaving has remained a specialty of Cheney Brothers, and the velvet looms now in general use in the trade were developed in 1892 by Richard Mommers in the Cheney Mills. The development of transparent velvet in the 30's is another important phase with which this firm has been closely associated. The printing of silks was begun in 1880 also, and this has remained an important section of the business.

One of the most far reaching inventions of this period was the Grant reel, designed to eliminate waste by the snarling of skeins of silk, and also applicable to cotton, worsted and rayon winding. Grant had been employed in the Cheney Mills from about 1840 and this invention was conceived, worked out and received its first application there.

During this period mills began the weaving of Jacquard silks which have remained important in the decorative and upholstery fields. In this line the Cheney Mills were not only pioneers, but they have for half a century remained established leaders.

About 1900 a form of ribbon manufactured without weaving, known as ribbonzene, was the first of a series of new inventions. It was followed by the tubular cravat woven on a ribbon loom, the showerproofing of silk goods, and other innovations.

Community Experiments

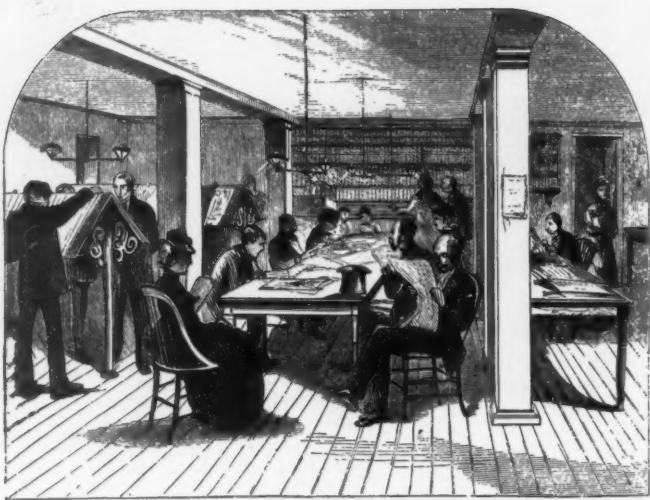
From early days the Cheney Company attracted to its mills European families whose background often included textile experience. In the 1840's there were English families from famous weaving districts; French folk with similar background came in the 70's and 80's; about the turn of the century came families from the textile districts of Italy. There were also the Irish and Scandinavian settlers who quickly adapted to the trades.

In the late 1860's the firm sensed the need of more opportunity for recreational activities in the town, to which the mills had brought increasing prosperity. The Cheney Hall, built in response to the need, formed an early experiment in community relations unusual at that time, for it contained an auditorium, a stage with drop curtains, a dance floor, various club rooms, a dining room and kitchens. It served as headquarters for various fraternal organizations and its facilities were free not only to the employees of Cheney Mills but to all the townspeople.

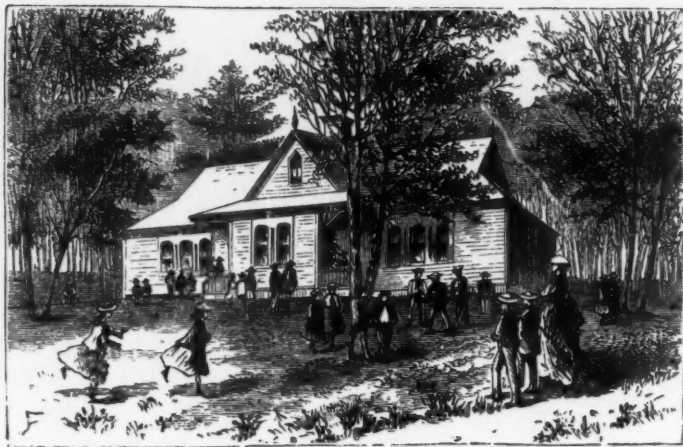
(please turn)



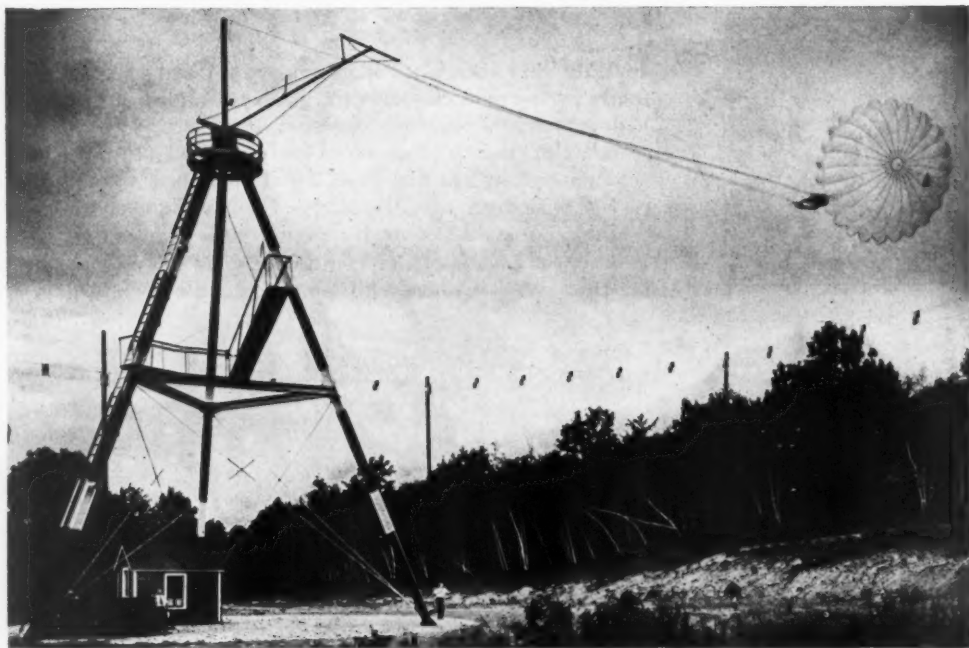
Cheney Brothers' original founders were (above) Charles S., John and Ralph Cheney, (center) Ward Cheney, and (below) Seth W., Rush and Frank Cheney.



The Library and Reading Room . . .



. . . and the School House, 1872.

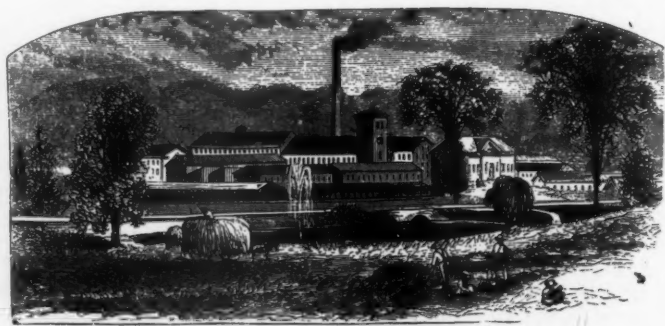


Parachute Testing Tower of the Pioneer Parachute Company, Manchester, Connecticut.

In pre-parachute days Cheney Brothers provided a library and reading room, schools and other community institutions. When World War II broke out, they were engaged in the gigantic tasks of national defense for which they received meritorious awards.



The New Factory, 1872 . . .



. . . and the Silk Works.



The Hall, built in the late sixties, and depot . . . and at right, the Boarding House.

A Century of Textile Pioneering . . . continued

The firm also built good schools and contributed to their support and, until recent times, was the owner of most of the school property in South Manchester. With the growth of public educational facilities everywhere, the properties were turned over to the town to own and operate.

Because large quantities of water were needed for the mills and for domestic use in the town, the firm built reservoirs which were supplemented as necessary. The mill also built a large sewage and sewage disposal plant to meet the needs of both mill and community. These were also handed over to the town, as such services later assumed a public character and the need for their private operation ceased.

When transportation problems on coal and raw materials became acute, Cheney Brothers built their own railroad connecting the plant with the Hartford, Providence and Fishkill line. In 1933 this facility was bought by the New York, New Haven and Hartford Railroad.

At first all textile mills used oil illumination or operated only during daylight hours. When gaslight came into commercial use Cheney Brothers immediately recognized its possibilities for the textile trade and built and operated a coal gas plant for mill illumination. Later they pioneered the use of electricity in textile mills and the gas plant was taken over by the Hartford Gas Company. The electricity was derived from both steam and water power and was distributed to the community as well as to the mill; it was in its turn taken over by the Connecticut Power Company when that operation was extended to servicing both mill and town.

It is interesting to note, in this connection, that Cheney Brothers always endeavored to establish rates of remuneration which compared favorably with those prevailing in the industry. This has been done usually on a piece work basis in conjunction with ideal working conditions and the finest materials. As a result, although the population of Manchester has increased from about seventeen hundred in 1840 to over fifteen times that number at the present day, approximately one quarter of all the families are still dependent on wages earned at the Cheney Mills.

Cheney Mills Today

It is impossible in anything less than a large volume to give an adequate idea of an operation ranging from the raw materials to the finished goods, which requires more than 36 acres of floor space and includes in its scope not only silk but fabrics woven from rayon, nylon, Orlon, Dacron and other fibers and blends.

The plant consists today of a throwing mill for the making of reeled silk yarns; a spinning mill for the production of yarns from waste silk, wool, rayon, nylon, and other man-made fibers;

a broad goods weaving mill for the weaving of plain and jacquard fabrics; a velvet mill for weaving and finishing pile fabrics; a yarn dyehouse; a piece-dyeing, printing and finishing mill for velvet and broad goods; and other departments. All are located at South Manchester.

The broad goods weaving department is organized around 702 broad goods looms, which include plain, box and jacquard types. The velvet mill is organized round 256 modern two-shuttle velvet looms of various widths. Both these mills are balanced by a full complement of modern machinery for warping, quilling, designing, card cutting and all related operations.

The throwing mill has modern equipment throughout, as has the yarn department which handles and spins natural and man-made fibers. The yarn-dye department can handle silk, cotton, rayon, nylon and other yarns in the skein.

In 1946 a new printing and finishing plant was completed which has proved efficient and has established a reputation for high quality work in the trade.

A Great Defense Undertaking

Any story of Cheney Brothers must include some mention of the Pioneer Parachute Company which was incorporated in 1939. Its aim was to compete in world markets for the production of civil and military parachutes. On the outbreak of World War II the entire facilities were called upon to fill needs of military defense, including manufacture of parachutes of all types, tow targets, harnesses, pack cloth, armor cloth, wire-bearing radar cloth, and many other specialty items. The space occupied amounted to 100,000 square feet, and the operation of this company is still an active branch of Cheney Brothers operations today. For its meritorious service to the government, the Pioneer Parachute Company was awarded Army and Navy "E" flags with two additional stars, denoting three separate meritorious service awards.

The story of the Cheney Silk Mills is, in many ways, the story of the growth of American industry from its beginnings. Based on an agricultural background, filled at every phase with the inventive genius of the new American industry, dependent for its initiative and foresight upon the enterprise of a highly endowed and gifted family, inspired by public spirit in its relations with the community and by patriotism in its relations with the government, it has not faltered in its progress from the days of its modest beginnings. It stands today as an example of the American Textile Industry's self-sufficiency, absorptive capacity, resiliency and adaptability.

END



THE CONSUMER

The millman, the converter, the apparel manufacturer, the retailer, the retail clerk . . . all constantly use textile words and phrases as selling blandishment . . . all assuming that Mrs. Consumer knows what they're talking about. Sadly enough, a good deal of it is incomprehensible to her. And so writer Cora Carlyle gathers a

Q. Recently I heard of a nylon wedding veil which caught fire. It had been my understanding that nylon was not flammable. Can you give me further information?

A. It is still true that nylon is non-flammable. When flame is applied to nylon it melts and gives off the odor of celery, but no flame is propagated. Very likely, in the case of the veil, the manufacturer may have added a finish to the material to afford more crispness. We recommend, if you are planning to use nylon marquisette, or net in some other form, that you procure a small sample of the material and touch a match to it. If the flame is supported, you may be assured that some sort of finish has been given the goods which rendered it flammable.

Q. In recent ads I noticed that some cotton slips are described as made of polished cotton. What is the exact meaning of the term?

A. In some cases it means that the cotton fabric has been run through high speed rollers to give a shine or luster to the material which will disappear after a single washing. In other cases, a chemical treatment has been applied before putting the material through a heat treatment, followed by the same roller treatment. This finishing treatment gives a permanent polish if, after laundering, the fabric is ironed on the right side with considerable pressure.

Q. I have just bought a short coat that looks like leather but is made of plastic. How is this material made?

A. This is a timely question since both full and short-length coats of this material are being shown for cruise wear, spring and summer. Following is a brief description of the process for making this material.

First, a good cotton sheeting is selected; a mixture of chemical substances is applied at a temperature of 250° F. Then an embossing or engraving process is employed to give a leather-like grain appearance. Finally, water cools the material, thereby setting the engraving and the coating.

The aim has been to produce a supple, soft fabric, appropriate for cold and warm climates since the fabric is intended for winter sportswear as well.

Q. I have a dress of fabric which the sales clerk said was embossed. It has a raised pattern of a diamond motif. There were, however, no directions for caring for the dress. Should it be washed or sent to the dry cleaners?

A. The diamond effect was pressed in by rollers. We cannot, however, give you a definite answer about whether or not the embossed area will withstand washing, without testing the material. This you can do yourself, incidentally, by trying out an inconspicuous portion in warm suds. If the pattern remains, you may be certain that you can wash by hand in warm suds. Be sure, however, not to wring the fabric, since wrinkles may thereby be put in which you cannot remove except by ironing, and such

pressure might flatten the pattern. If, when tested, the pattern should come out, you can trust the garment only to your cleaner who should be equipped to clean the fabric by the special methods that he understands. It is a wise precaution, in buying such fabrics or garments, to buy only leading name brands.

Q. I was much interested in a previous question in your column about whether consumers could expect any remedy for static which makes garments cling. What is the latest information?

A. A well-known expert in the field recently stated that this "sore problem" is not near solution as yet. It seems that an anti-static agent effective on one fiber might be only moderately effective on another, and may even increase the static properties of a third fiber. In other words, in order to find a proper and durable anti-static, it would have to have ease of application and yet not change the feel of the fabric or its resistance to wear; it must be washable and dry cleanable, etc. While some progress has been made, the problem has not been fully solved.

Q. I have been following the efforts of groups interested in enacting legislature to keep flammable fabrics off the market. Can you let me have the status of this matter up to the present time?

A. On July 1, 1953, the President signed a bill that will become effective June 30, 1954. It will prohibit from interstate commerce articles of apparel or fabrics "which are highly flammable as to be dangerous when worn by individuals." Included in the bill is "vinyl film intended for apparel use." The enforcement agency will be The Federal Trade Commission. The bill mentions some exemptions, notably, "hats which do not cover the face, neck or shoulders" and "gloves not more than 14 inches in length and worn separately from other garments." Footwear is also exempted unless "a foot covering is attached to some form of hosiery."

Q. I like seersuckers, plissés and similar crinkled fabrics which I use for my growing family because they save ironing time. After washing garments made from these cloths I find so many wrinkles that they do not look well. I have been washing them in my machine, putting them through the wringer, and hanging them outside to dry. Is this a correct procedure?

A. Your difficulty arises from the use of the wringer, so that wrinkles are put in which will not come out on the clothesline even on a breezy day. We suggest that you hang the garments dripping wet. If the garment is a dress that you wish to dry quickly, roll it briefly in an old towel or sheet to extract the excess moisture, then hang it at once. A slight finger pressing will help the shaping. (Finger pressing means shaping with your fingers into the final shape that you desire.) Even if you wash garments by hand, do not twist or wring them. Merely dip in rinse water, roll in a towel, and hang to dry.

WANTS TO KNOW...

group of typical Mrs. Consumers before each issue goes to press . . . asks them what they'd like clarified in textile terms . . . and puts the questions to Dr. George Linton, Textile Editor. Here is the latest group, and the answers may provide illuminating information for the benefit of many readers.



Q. I have seen the name Avcoset on hangtags of garments. What does this term imply?

A. Avcoset is the trademark of the American Viscose Corporation for a process which stabilizes rayons and rayon blends, and for a program used in connection with such stabilized fabrics. Avcoset-treated fabrics will not shrink more than two percent; they can be washed in a machine, even boiled; they possess colorfastness to light. The tensile strength is rated as high, and the fabrics will stay clean longer, and wash and iron more easily than untreated fabrics.

The program for Avcoset refers to the extensive series of specifications, as to dyestuffs and other factors, that must be lived up to before the company will grant a license for the application of the finish. The word Avcoset on labels and hangtags can be used only when all stringent requirements have been met.

Q. I have just bought a taffeta skirt for evening wear. The label says "Made of Rayon, Taffetized Finish." Why should a skirt made of taffeta need a taffetized finish?

A. The word taffeta implies the name of the weave, another name for the plain weave. This is a checkerboard effect weave in which the width-wise or filling-wise yarns go over and under the lengthwise or warp yarns in the construction. Thus, a fabric described as taffeta merely implies that the cloth is made of a plain weave, in which the filling has a cylindrical type yarn to give a cross-rib effect in that direction, sometimes called a derivation of the plain weave. Taffeta was first made with silk yarn but now the fiber content may be any one of a number of major textile fibers.

As far as the finish is concerned, fashions for the current season are stressing the very crisp fabrics. No doubt the material needed extra fortification in this respect, so a lacquer was applied to the surface to give what is called a taffetized finish. Thus, a stiffness not inherent in the goods was achieved.

Q. As a clothing teacher I know that many wool manufacturers pre-shrink woollens so that this need not be done before cutting the fabric. Many of my students bring in wool yardage which has not been pre-shrunk. How may I best direct my students to prepare their woollen fabrics for dressmaking?

A. We urge, of course, that you instruct your students to buy, whenever possible, wool yardage that is ready for use. Since this may not be possible at all times, one course is to send the yardage to a professional tailor who will apply steam to the cloth. If a tailor is not available, the treatment can be given at home. First, clip the selvage every six inches, at right angles to the material, so that puckering will not occur. Then dip an old sheet in cold water, wring slightly and lay the sheet on a large flat surface. Lay the wool material on the wet sheet, roll very loosely and allow the fabric to remain wrapped overnight. Remove and press

on the wrong side, using a press cloth and small strokes to avoid stretching. Do not cut until the fabric is quite dry.

This does not mean that the cloth thus treated will not shrink more during wear and in cleaning, but you will have followed the best possible procedure under the circumstances. Incidentally, if you write to The Wool Bureau, Inc., 16 West 46th St., they will be pleased to send material on wool shrinking.

Q. I am often puzzled by some of the descriptive words in ads. For instance, what is the meaning of the term textured? We hear of textured carpets, fabrics and so on.

A. The word textured has come to have a rather wide application. It implies a surface that is not smooth, and which has a definite up-and-down to the touch. Examples that come to mind are poodle cloth, zibelline and shantung. The trend now is to speak of a fabric as textured if it appears other than smooth or flat.

Q. I am one of your readers who has been plugging cotton slips for warm weather usage. What is the prospect for the future?

A. Fashion coordinators inform us that we may expect cotton lingerie of plissé. Some small amounts are now available in the better stores, made of dimity, nainsook and voile. This should be good news for those who like the feel of cotton next to the skin. The plissés formerly offered were not to be found in the better shops. This season the fabric treatment is improved and the crinkle effect will be retained much longer.

Q. Information on garment tags frequently includes the word stabilized in such a phrase as "this fabric is stabilized to (so much) percent." It sounds as if a stabilized fabric might be stiff and unyielding.

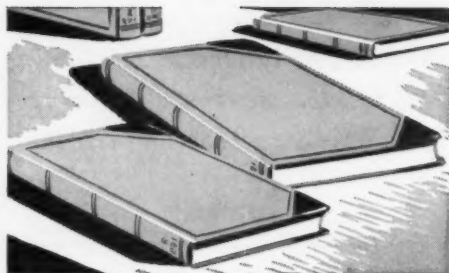
A. Stabilization is a very desirable quality in fabrics. You may recall sometime in your experience when a woven or knitted fabric changed shape after laundering or cleaning, or even after a couple of wearings. The better fabric manufacturers have given much attention to see that this does not happen with woven and knitted fabrics for garments on the market today. There are many methods used, but all of these aim to control stretching, shrinking, and general change in shape. Furthermore, the pleasing hand and wearability are not harmed by stabilizing.

Q. Kindly tell me something of common bleaches that are used in textile finishing.

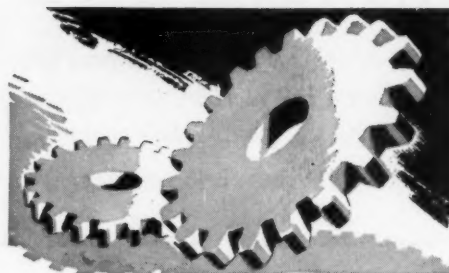
A. Two common bleaching processes are oxidation and reduction, the latter being more correctly referred to as a *stripper*. Common oxidizing bleaches are chlorine, sodium perborate, hydrogen peroxide, and potassium permanganate. The two bleaches are opposite in nature, and although each type will produce whitening effects they counteract each other in much the same manner that acids and alkalies neutralize each other.



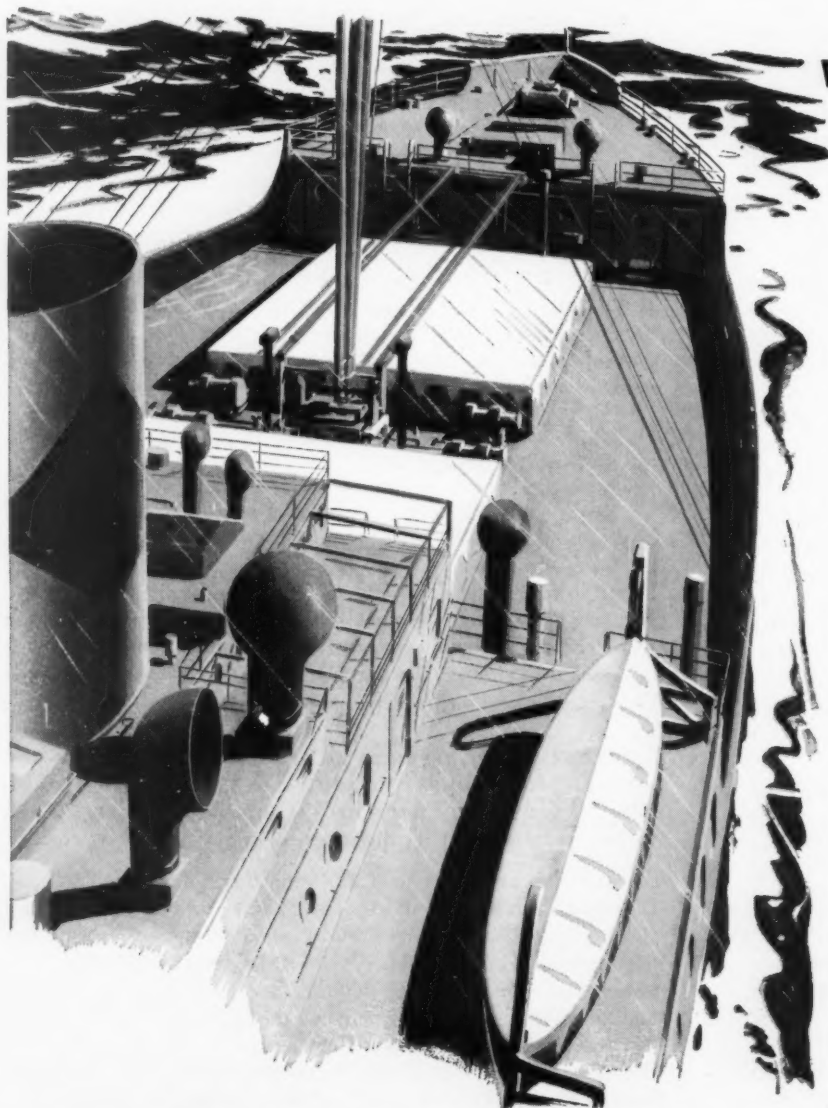
Filter cloth used in continuous-operation processing of chemicals, as in rotary leaf vacuum filters, requires porosity, chemical resistance, and durability.



Sheeting-type fabrics used for coated book bindings must be of highly uniform quality to take finishing processes satisfactorily.



"Lantuck" non-woven fabric is an economical filler for laminated plastic gears and other uses calling for superior mechanical strength, machineability.



WHEN THE WEATHER IS WRONG, THE DUCK MUST BE RIGHT

Who can predict the stamina of ocean-going duck? It is proven at sea. Rather than trust to luck, most marine buyers trust Wellington Sears duck for hatch and boat covers, and weather canvas. For tough sea-going fabrics are a Wellington Sears tradition. (Indeed, this company started over a century ago as ship chandlers.)

Today, Wellington Sears stands as the nation's leading source of duck of every description for every purpose. From hatch-covers to beach umbrellas, each fabric is engineered for its own end-use. Weights, widths, weaves, tensile and abrasive strength—and finishes—are pinpointed for the job. This individual approach to textile problems demands more of us but, we believe, delivers more to the fabric.

Whatever your fabric need—for bookcloths, laminated gears, filters, or tarpaulins—doesn't it make good sense to take advantage of unrivaled technical experience and efficiency?

For your free copy of "Modern Textiles for Industry"—24 pages of facts on fabric development and application—please write to Wellington Sears Company, Department X-11.

Wellington Sears

A SUBSIDIARY OF WEST POINT MANUFACTURING COMPANY

FIRST In Fabrics For Industry

WELLINGTON SEARS COMPANY, 65 WORTH STREET, NEW YORK 13, N. Y.

OFFICES IN: ATLANTA • BOSTON • CHICAGO • DETROIT
LOS ANGELES • NEW ORLEANS • PHILADELPHIA • SAN FRANCISCO • ST. LOUIS

For These and Other Industries

Rubber	Abrasive	Petroleum
Automotive	Chemical	Mining
Fabric Coating	Food Processing	Ceramics
Plastics	Sugar Refining	Farm Machinery
Canvas Products	Laundry	

Wellington Sears Offers Many Varieties of These Fabrics

Cotton Duck	Chafar Fabrics
Drills, Twills and Sateens	Synthetic Fabrics
Automobile Headlining	Airplane & Balloon Cloth
Industrial & Laundry Sheeting	Fine Combed Fabrics
Bonded (Non Woven) Fabrics	

AMERICAN



FABRICS

presents

American Industrial Materials

featuring special articles on color

in the automotive field . . . jacquards for automobile


upholstery . . . development of today's air hostess

uniforms . . . trends in industrial fabrics for high-fidelity

manufacture . . . a progress report on ramie.



Courtesy Chrysler



The Viscose Filament
Colored Yarn in this
Fabric is . . .

IMPORTED
Decora
Unequaled Color Fastness!

Will not fade or run . . .
Unconditionally washable
and ironable!

* Trade Mark, Société
de la Viscose Suisse,
Emmenbrücke.

Decora
**SOLUTION-DYED
FILAMENT RAYON YARN**

**BRAWER
BROTHERS
SILK
COMPANY
INCORPORATED**

in hawthorne
111 Wagaraw Road
Hawthorne, N. J.
HAWthorne 7-4242

in new york
450 Seventh Ave.
New York 1, N.Y.
LACKawanna 4-7497

Choice of 9 Basic Colors
Immediately Available From Stock

Contact us today for further information con-
cerning DECORA . . . the finest yarn of its
kind in America!

Fast to Light . . . DECORA QUALITY is unmatched by any other known dyed yarn . . . DECORA YARN is guaranteed for a 200 hour Fade-Ometer rating.

DECORA is ideal for . . . upholstery and seat covers, drapes, curtains.

Fast to Washing and Hot Iron (250°) . . . Fabrics made from DECORA YARN can be boiled without any harmful effect.

DECORA is ideal for . . . children's wear, pajamas, shirts, housecoats, sportswear and linings.

Fast to Perspiration . . . Fabrics made with DECORA will resist discoloration due to perspiration.

DECORA is ideal for . . . trimmings, dresses, shoe cloth, handbags, etc.

Fast to Dry Cleaning . . . DECORA will resist in every way rigorous treatments of dry cleaning.

DECORA is ideal for all fabrics.

Resist Dye Properties . . . Resists chrome dye bath (acid solution); light and medium shade acetate dye bath; acid dye bath (acid solution).

Novelty Fabrics . . . DECORA YARN will lend itself to more than 1,000 color combinations. Ideal for novelty fabrics at a minimum of cost.

* Trade Mark, Société de la Viscose Suisse, Emmenbrücke.



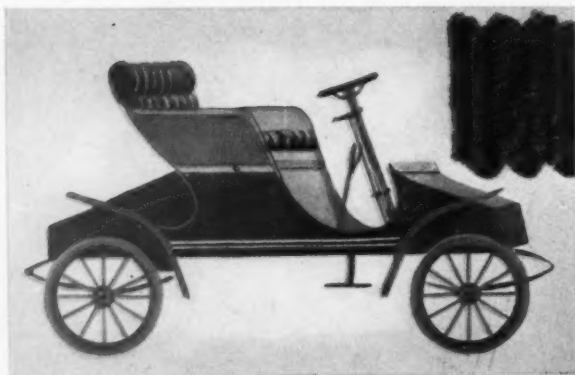
*Mesh your body styling plans
with our fabric know-how . . .*

Robbins' technological experience embraces all man-made fibers and their multiform combinations. Robbins' plants contain spinning, weaving, throwing and finishing equipment: you can depend on Robbins' completely integrated operation and its consequent high standard of quality control from fiber to finished fabric.

• AUTOMOTIVE REPRESENTATIVES: M. L. MacKellar Associates, 16250 Meyers Road, Detroit

ROBBINS MILLS INC.

1407 Broadway, New York 18, New York



Colorless was the word for upholstery in the old days.

Color speaks for itself in almost all car sales today. As in the hard-top model pictured here, expert styling and color co-ordination are apparent *inside and out*. The interior trim, the upholstery and the hardware were all meticulously chosen to harmonize with the two-tone body.

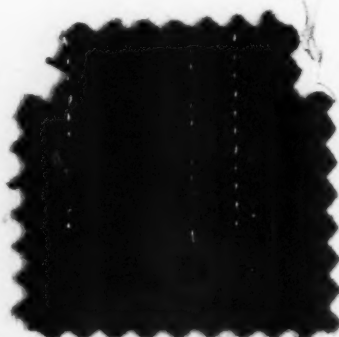


COLOR speaks louder than words

When public taste began to lean toward color in cars, Chatham automotive upholstery changed as radically and as fast as the new models. Such awareness is, of course, only a matter of good business. It is also a tradition with Chatham, and one of the reasons this company has grown from a small family enterprise

to one of America's great mills. Meeting new trends with quality products was a basic principle with the first Chatham seventy-five years ago, and is still a matter of family pride with the fourth generation of Chatham sons. *And family pride is a very good guarantee of quality.*

One of Chatham's smart new patterns, this upholstery fabric and bolster fabric were specifically designed to enhance the colors of the car above. Foremost automotive manufacturers have found that Chatham upholstery is indeed something to talk about—whether it's Chatham's hardy nylon, rayon and nylon mixtures, Orlon, on worsted or woolen systems.



Chatham Manufacturing Company • Mills at Elkin, Charlotte, Spray in North Carolina • Automotive Fabrics Representative: Getsinger-Fox Company, Detroit

COLORS CAR BUYERS WANT

A survey made by the author of this article indicates that cool blues, greens and grays are most popular with consumers, and reveals wider use of two-tone styling to achieve desired effects, a demand for better harmonization of exteriors with interiors, and the relationship of color and texture to sales.

BY HOWARD KETCHAM, AMERICAN FABRICS COLOR EDITOR

THE TREND TOWARD MORE COLOR — and better color coordination — in the American home is exercising a profound and far-reaching influence on the motor car industry. People expect passenger car interiors to be less commercial, more distinctive and interesting in appearance.

You can still go into almost any mill today and point out instantly which fabrics are intended for auto upholstery. You will notice, however, that the monotony of innocuous interiors of auto and other passenger transport is rapidly giving way to brighter color schemes, to the atmosphere and comfort of the living room.

The trend in home furnishings is toward freer use of colors, toward more variety and contrast in textures and patterns, and, thanks in part to recent advances in dirt-resistant fabrics and home cleaning methods, to combinations of lighter and gayer colors. A good part of the new life in home furnishing colors and materials is due to the luster and sparkle obtainable with some of the new synthetic fibers.

Certain auto makers are depending more and more on the intelligent use of color in both the exterior and interior of new models to promote sales, rather than on body changes, which require extensive and expensive retooling and are not always as effective with women customers.

One of the forward-looking auto makers, Chrysler, is, according to a recent item in *Time* magazine, "concentrating on . . . spectacular experiments in color . . . Chrysler is also going after the woman driver with bold use of color on interior fabrics, and new body-finish colors touted as the flashiest the industry has ever seen."

Chrysler is aware that while the right colors can make merchandise appear more luxurious, the wrong ones can make expensive items look cheap. As one of the major auto manufacturers in the country, they found that some of the relatively costly materials they were using for upholstery, side walls and headlining did not convey an impression of quality and value. Consequently, they called on the author of this article to develop materials which were to be not only more durable, easier to maintain and less costly, but which should give the impression of high quality.

While the proper use of fabrics and color can make the cramped, odd-shaped interiors of some passenger cars seem spacious and livable, the selection and distribution of exterior colors also has a most significant influence on the appearance of body lines and overall styling.

Recent Developments in Color Styling

Mr. V. M. Exner, Director of Styling for the Chrysler Corporation, says that color is becoming more important as a sales factor in the automotive industry, and that combinations of color have been effectively used by all automobile designers to control the appearance of length, width and height of automobiles.

He considers that colors such as ivory, cream, red, orange and yellow can serve to make automobiles appear larger, that the use of light colors will make automobiles appear wider, that

added length can be achieved by using horizontal stripes of chrome on dark colored cars.

Proper application of two-toning can make the automobile appear lower, and the use of a lighter color beneath the belt-line and a darker color above, can make a car appear both lower and longer. Two-tone automobile colors are again assuming an increasing importance in automobile body styling; today approximately 40% of the passenger cars produced by the Chrysler Corporation are finished in two tones.

It would seem that introduction of the extremely successful hard-top models in 1950 is responsible for the marked revival of the popularity of two-toning, which will probably be extended to four-door sedans in the near future.

American automobile color preferences always follow a distinct pattern among various age, geographic region, sex and income groups. In addition, color has a seasonal sales appeal; certain greens and blues prove particularly successful in the spring months, and serve as sales stimulants.

Currently, Chrysler is featuring a record choice of 58 exterior
(please turn)

Virgil M. Exner, Chrysler's Director of Design, is internationally known as a daring creator of styling fashions. To Mr. Exner automobile styling is in a dramatic state of evolution. He sees 1954 as the most colorful year in the history of automobiles because improvements in paint and synthetic fabrics are opening an entirely new dimension in automobile styling.



DATA COURTESY CHRYSLER CORPORATION.

COLORS CAR BUYERS WANT . . . continued

colors and 86 two-tone color combinations. Every year new finish applications and textures are perfected. For example, the shelf of the 1954 Dodge instrument panel behind the windshield is finished in a coat of textured enamel resembling Scotch grain leather. This serves to give the instrument panel a fresh, richer appearance, and the textured paint tends to eliminate reflection and glare which disturb the driver's vision.

The preferences for exterior automobile colors today are as follows: light blue, light green, dark green, light gray and black. A study made by the writer has demonstrated that color in the automotive industry serves as a barometer recording the spirit of the times. Black was little favored as an automobile finish in the boom period of the late 20's. Prosperity then and now appears to breed spontaneity in the use of color. The necessity for economy no doubt led many car buyers to select black in the early 30's because it is less conspicuous, and less tiring to the eyes and more durable, and a better buy during times when cars are purchased to serve a longer period of time before exchange or sale. That black has little appeal as an automobile finish at the present time is indicative of the current prosperity.

It is interesting to note that a gray for an automobile can look either cold or warm, depending upon the color used with it. A gray and blue combination will look cold, while the same gray combined with a red secondary color will be warm in appearance. Red as a car color is beginning to regain some of its former popularity.

Consumer Preferences in Color

There has been recently completed a consumer preference survey for the Dodge Division of Chrysler Corporation, to determine consumer wants for both exterior and interior colors for the new Dodge models, as well as in fabrics for interior upholstery, side walls and headlining.

The survey was conducted in key cities across the nation, among both men and women of all ages in the Dodge price

bracket. Wherever feasible, polling was conducted in actual sales showrooms in order to give interviewees an opportunity to visualize the color and texture samples on actual models. Special testing charts, including samples of Dodge and competitors' colors, were used; both new and traditional materials were represented in the survey.

The results of the survey confirm the present appeal of clear, definite colors, especially in interior materials. The public is enthusiastic about new upholstery, side wall and headlining fabrics which get away from the old auto fabrics look, and which are closer to the new colors, textures and patterns already available in home furnishings.

Oddly enough, practically no difference was found between the color preferences of men and women, and only a little between younger and older interviewees. Although each of the cities in the nationwide canvas came up with a different first choice for exterior color, the first three choices were the same in each region. And all three of the colors were clear, bright, definite colors; public taste this year is heavily weighted in favor of cool hues — blues, greens and grays — with only one warm tone represented in the first 7 winning choices.

For interior upholstery, public taste runs to blues and greens; smooth textures are preferred to rough. For side walls, gray, blue and green are preferred, in that order; plastic or synthetic fibers are preferred, with leather as a third choice. For headlining, a plain gray fabric is preferred, in a wool or felt texture.

In general, the colors and materials chosen were those closest to the latest available in the home furnishings field, rather than to traditional auto fabrics. The public as a whole steered away from muddy or brownish shades, and even the preferred gray or other neutral tones are clean and clear.

Future Styling Trends

It now appears that in the future, most car interiors will be styled not only to conform with the public's expressed preferences, but to harmonize with the exteriors so that each car

(Continued)

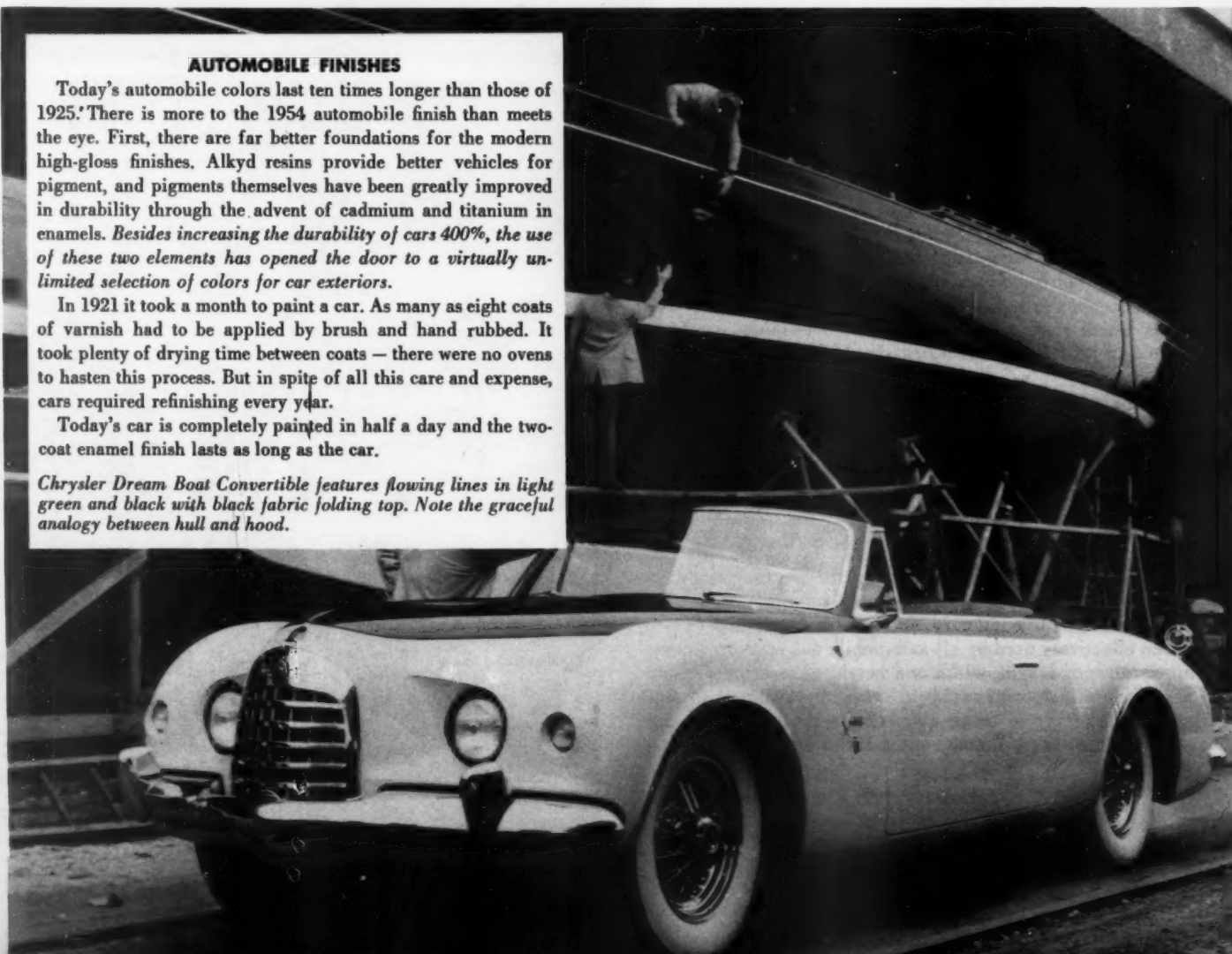
AUTOMOBILE FINISHES

Today's automobile colors last ten times longer than those of 1925. There is more to the 1954 automobile finish than meets the eye. First, there are far better foundations for the modern high-gloss finishes. Alkyd resins provide better vehicles for pigment, and pigments themselves have been greatly improved in durability through the advent of cadmium and titanium in enamels. Besides increasing the durability of cars 400%, the use of these two elements has opened the door to a virtually unlimited selection of colors for car exteriors.

In 1921 it took a month to paint a car. As many as eight coats of varnish had to be applied by brush and hand rubbed. It took plenty of drying time between coats — there were no ovens to hasten this process. But in spite of all this care and expense, cars required refinishing every year.

Today's car is completely painted in half a day and the two-coat enamel finish lasts as long as the car.

Chrysler Dream Boat Convertible features flowing lines in light green and black with black fabric folding top. Note the graceful analogy between hull and hood.





COLOR POPULARITY . . . YEARLY AVERAGES

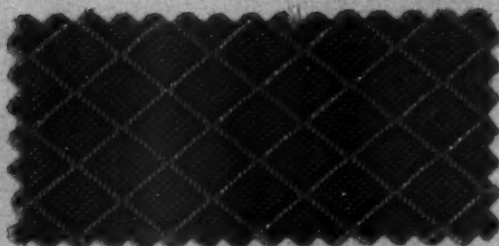
	1940	1948	1949	1950	1951	1952	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
Black	22.3	19.9	17.5	16.2	10.1	8.2	7.0	6.8	10.6	10.0	9.5	9.8	9.4	10.0	8.9	2.9	5.2	10.2
Light Blue	9.7	8.7	8.9	10.0	16.7	18.3	20.1	19.8	17.6	19.0	19.8	18.9	18.5	19.6	15.5	17.5	16.8	16.6
Medium Blue	.9	5.7	6.9	7.0	2.8	6.0	3.7	3.9	7.1	7.2	7.1	7.3	7.5	7.8	9.5	3.8	3.1	2.7
Dark Blue	9.4	9.1	7.3	6.7	5.4	3.8	3.2	1.3	2.8	2.7	2.4	2.9	2.7	2.9	2.2	5.4	6.1	6.3
Light Green	7.5	7.2	10.0	12.0	16.4	16.2	17.0	17.6	15.4	15.1	15.0	15.4	15.7	15.1	17.1	23.1	15.0	13.3
Medium Green	2.0	3.2	1.9	2.1	3.7	4.7	6.2	6.8	3.9	6.7	7.8	4.4	4.4	3.6	2.9	2.2	2.3	2.5
Dark Green	8.3	11.9	13.0	14.5	11.4	12.8	8.9	9.2	14.2	13.3	13.6	15.7	15.1	16.0	18.2	8.9	12.8	13.9
Light Gray	10.6	9.7	9.2	8.6	12.6	11.5	15.2	12.6	10.2	9.7	9.6	9.7	10.5	8.8	10.0	16.0	14.2	11.8
Medium Gray	3.6	1.8	2.5	4.2	2.8	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dark Gray	7.3	5.8	6.6	7.2	6.2	7.6	6.6	8.9	8.5	8.1	7.9	8.2	8.0	8.4	8.2	4.3	6.7	7.3
Red	1.3	1.5	1.0	5.0	1.0	2.0	1.3	1.2	.9	1.3	1.3	1.4	1.4	2.7	1.4	5.2	2.6	3.8
Brown	.0	.9	1.8	.4	2.7	2.2	2.3	1.7	1.3	.8	.6	1.1	1.3	1.1	1.0	3.3	5.2	4.2
Maroon	11.8	9.1	7.0	4.5	3.0	2.6	2.4	2.2	3.0	2.7	2.6	2.7	2.6	1.8	2.9	3.0	3.6	2.2
Beige	3.4	1.8	1.3	2.2	3.1	2.7	4.1	3.5	2.9	2.4	1.8	1.8	2.1	1.6	1.6	2.8	4.2	3.0
Ivory	.2	.0	.2	.2	.9	1.3	.9	1.1	1.3	.7	.7	.5	.4	.4	.6	1.6	2.2	2.2
Tan	1.5	2.5	3.6	2.4	.7	.2	.0	.4	.3	.3	.3	.2	.4	.2	.0	.0	.0	.0
Two Tones	1.0	.4	.3	.5	13.5	18.3	17.1	15.3	13.0	16.7	18.5	12.6	13.4	12.2	13.1	29.8	27.2	31.2

AUTOMOBILE FABRICS

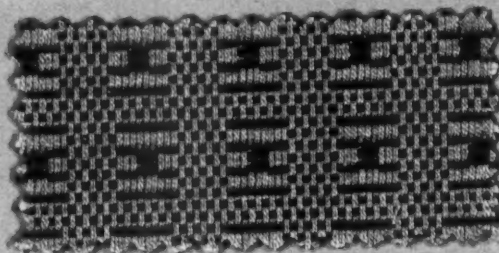
In 1925, hot heavy mohair fabrics were in general use for automobile upholstery. Today, Arthur H. Kibiger, Head of the Interior Styling Department of Chrysler Corporation's Engineering Division is adding jacquards which bring new and colorful patterns into use in the auto — damasks, tapestries, brocades, and a host of man-made fiber fabrics, including extruded plastics, nylon, acetate and viscose fibers to car interiors. Upholstery materials produced from synthetic fibers are proving sunfast, inexpensive and capable of being produced in a variety of colors, patterns and textures admirably suitable for automobile use. Many 1954 models are trimmed entirely in nylon and vinyl. Some are trimmed in stain resistant cloths treated with a silicon compound that even ink will not stain.

Mr. Kibiger examines literally thousands of different fabrics before selecting the 16 different fabrics, over 13 million yards of which will be used by Chrysler Corporation in its cars each year. He points out that the exterior color of the car sets the key for the interior color pattern which must harmonize with and complement the exterior color.

Since colors change under different kinds of light, all car colors are tested with blending fabrics under all types of light, both natural and artificial, to insure perfect harmony. Wearability in fabric is as important to Mr. Kibiger as color and design in the selection of automotive upholstery.



Two examples of interesting styling in jacquard-type automobile upholstery fabrics are these used in the 1954 Plymouth Belvedere (above) and in the 1954 Dodge line (below)



COLORS CAR BUYERS WANT . . . continued

will be a perfectly unified whole. The Plymouth Belvedere is the first American passenger car line to offer completely matched interiors and exteriors.

The emphasis is not only on color, but also on interesting contrasts and textures. The public's definite preference for smoother textures, and its dislike of materials that look slick or cheap has guided progressive automotive stylists. The wanted materials are those which do not cling to woolen clothing, so that sliding in and out of a car presents no difficulty, yet the material must have sufficient body to hold one firmly in position.

In serving transportation carriers it has been the author's objective to use color in different materials and relationships than has been customary in the past. This task is made easier by the new materials (notably nylon, orlon and plastics) which can be engineered to a variety of exacting specifications, both as to appearance and practicality. Keeping in step with the buyer's wants is of great importance to the automotive industry, which uses thirty million yards of fabric a year; and it must be remembered that fabrics can't bounce back after sale; they must be right the first time.

There is a tremendous variety of new upholstery materials and limitless color combinations. There are improved performance characteristics and luxurious appearance inherent in many new synthetic fabrics. There is economy in these fabrics, also superior wearing qualities, better light-fastness, easier maintenance and greater eye appeal.

Rich-looking handsome materials are no longer created by the sacrifice of practical considerations. Recently, we effected a reduction of from \$12 to \$4.12½ per yard in an upholstery fabric utilized by a major railroad, at the same time introducing an entirely new motif in the appearance of the coach interiors, as well as improving their resistance to scuff and soil. It doesn't cost any more to use the right colors in any business — at times it may even cost less.

New colors lend themselves to advertising and promotion, because color is something that has universal and direct appeal. Obviously, cars with more colorful and attractive interiors will

lend themselves most effectively to color TV, and can be attractively promoted in other ways.

USE OF COLOR IN THE SHOWROOM

Automobile showrooms in which cars are sold are not in keeping with the value of the automobiles themselves. They do not compare with the fine appearance of other retail outlets, and they lack modern lighting.

The windows of most showrooms reflect a disturbing view of the street, rather than of the interior, which is obscured by insufficient or improper lighting. Some few dealers have made an effort to improve the appearance of their showrooms, but much of this work has been done in the past, and is not as up-to-date as it should be. Most of the showrooms are indifferently painted, and the lighting usually tends to change body lines and distort colors. In some of them, it is actually difficult to see, because of insufficient light, glare, or because light is not white.

As much effort and expense is entailed in achieving the best possible colors for new automobile models, it is only natural to want the results to be seen at their best. The proper use of color and light is one of the most effective and least expensive tools to help showrooms do their job of attracting customers. It is a wise investment from the point of view of establishing identity and individuality and giving distinction to all showrooms. Unfortunately, these two low-cost media have been neglected by car makers and dealers, although chain store operators have long concentrated on their right use.

A fresh coat of paint in a showroom costs no more in the right or the wrong color — and little more than washing a wall. Since color, good or bad, will be used anyway, it is only logical to use those colors which will provide a beneficial effect.

The right kind of illumination will not only attract more people into the showrooms, but will impress passersby with the good colors and lines of the models on display.

The proper illumination is a glareless white light. White light contains all visible colors, and, therefore, all car colors look best



Magnificent jacquard tailored into Chrysler's experimental glass-topped car gives a hint of the direction of Detroit stylists' thinking.

JACQUARD BY MEADOW

under white light. We see colors better in daylight because the central nerves and cones of the eye are active under bright white light, but inactive at night in dim light. Most cars are sold during the evening hours.

The proper sales showroom lighting should command attention, convince, add interest, promote prestige, and have direct and universal appeal.

To develop sales-showroom lighting and background colors for the proper display:

- a. A new lighting fixture can be developed to effectively illuminate colors and body lines at point of sale. This will provide color-corrected light, which will retain true interior and exterior colors for both night and daytime selling. The fixture can be adaptable for large, medium and small showrooms.
- b. Typical lighting plans for all three different sized showrooms should be developed to minimize glare and distortion of colors and body lines.
- c. There should be a small unit that can be placed inside of a car to illumine point-of-sale display of interiors. It should be color-corrected so that it won't distort, and will point up texture, upholstery and interior detail to best advantage.
- d. Specifications should be made for three wall and three floor colors to set off and harmonize with the new car colors, and flatter the models on display. Background colors should be selected and developed to compliment the majority of new colors, and provide desirable light reflectance.

It is interesting to note that it was the airlines which first placed such great emphasis on color-styling and design. More and more railroads are anxious to attract the traveling public by the same means. The new equipment of the Southern, Long Island and Santa Fe Railroads are examples.

The same point holds good for railroad, airline and other transport interiors. Since we first began color-styling and lighting the interiors of airliners, the comfort and attractiveness of accommodations has become one of the major selling points of air travel. Railroads and ships are taking their cue from this

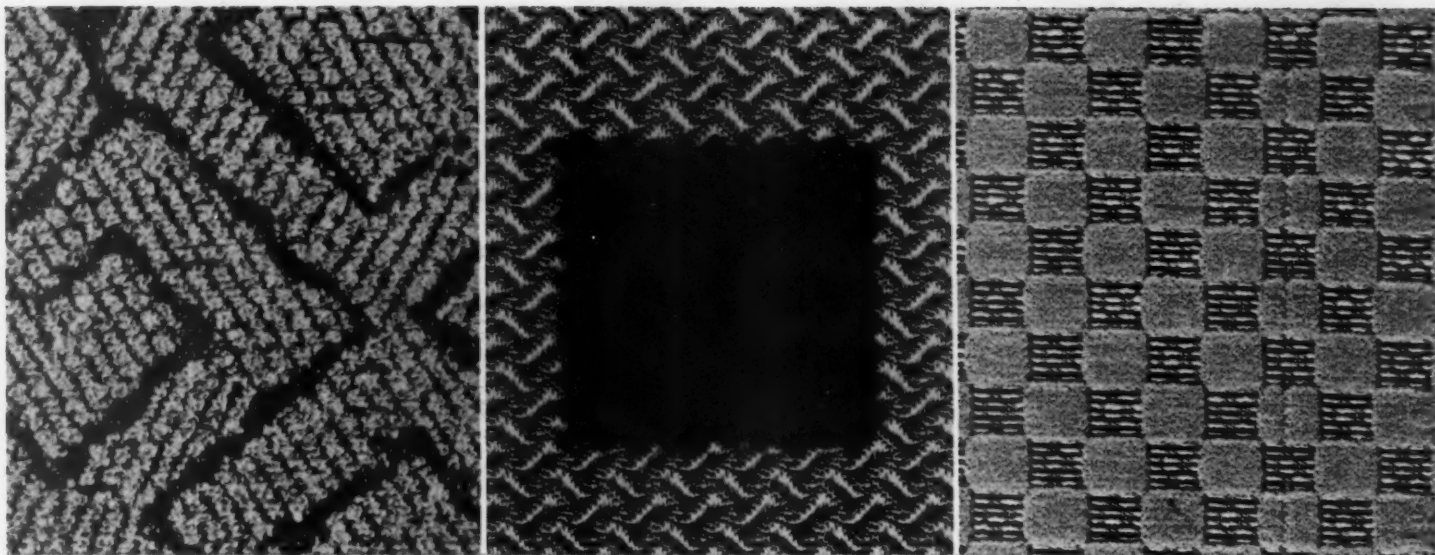
competition, and decorating new passenger coaches or refurbishing old ones with an eye to color and lighting. The general trend here, as in other forms of transport, is to make trains seem less trainlike and more homelike. Instead of innocuous typical train fabrics, we are using (in accordance with expressed preference of the public) upholstery in clearer, fresher colors and patterns, with lighting to bring out their full charm. Naturally, these changes for the better are made with the purely practical considerations noted above.

The extent to which color is being utilized as a selling tool by business and industry is now noticeable even to the layman; factual surveys reveal that more and more buyers are becoming color-conscious, that the American eye has become adjusted to color, and that consequently the influence of color in the designing of everything from supermarkets and kitchens to shirts and fountain pens is assuming greater importance every year. With entry into a rapidly expanding buyer's market, the importance of a well-planned sales appeal is obvious.

Broadly speaking, color in the auto fabrics industry is only part of the general surge toward color in all fields of endeavor, particularly among younger people. The proper use of color (and lighting, for of course color cannot be seen without light) is now a necessity to manufacturers. Advertisers are more and more employing the tremendous selling power of color. This movement will be hastened by the revolution taking place in the automotive fabrics industry.

It may be said that people are influenced 90% by emotional appeal and only 10% by reason. Color can supply the bulk of emotional appeal; as Joseph Addison pointed out in 1712, "Color speaks all languages." Stores report that 87% of the people who buy merchandise today are influenced by color—perhaps because the eye is 400 times quicker than the ear. Color is new; it commands attention, promotes prestige, adds interest and appeals directly to consumers. In other words, color can provide the selling point for autos or fabrics.

END



Above are shown three types of upholstery fabric often referred to loosely as jacquards. At left is a true jacquard; in the center, swatched, is a 100% nylon filament-face Pillowtuft fabric in small figured matelassé woven on a W3 type loom, from the 1954 Oldsmobile 98; at right is a dobby weave.

All from COLLINS AND AIKMAN.

THE JACQUARD TREND IN AUTOMOBILE UPHOLSTERY

Now that the 1954 models have been unveiled, it is more than ever clear that the Jacquard trend will prevail in 1954 and through 1955 — perhaps longer.

TO THOSE IN THE INDUSTRY, it may appear as though the designers in Detroit have been casting their eyes from their own enclosures to the decorative fields, and have there found not merely wild blackberries but every kind of delicious fruit. The mills supplied the first samples in many cases, but in others the Detroit designers have themselves selected decorative fabrics coming from domestic and world markets, and have asked the mills to adapt these designs to their needs.

This is indeed only taking the first step. The selected design has to be reconstructed from the graph up. There must be built into it all the necessary abrasion-resistance, snag-resistance, soil-resistance, slidability, non-fadability, tailoring ability, and other specific qualities, with the right price tag attached. To the new fabric now belongs a host of qualities which the first sample lacked, but the initial impact and appeal of the original design are still there.

What is a Jacquard?

In the sales room the name *Jacquard* is often loosely used to cover a wide range of fabrics. Three different devices are used for producing fabrics within the borders of this general category — dobby, the W 3 automatic, and the Jacquard looms. The basic principle of lifting the warp threads in certain combinations to produce a woven design is the same in all three. The difference lies in the number of warp ends which can be lifted and in the complication of the mechanism. The smallest design repeat is made by the dobby which lifts no more than seven warp threads, limiting the repeat to this size. The W 3 usually handles up to 26 warp threads and can therefore make a repeat over three times as large as the dobby. The Jacquard mechanism can produce a design of any size. The first two, being cam-operated, can be set up for a new design far more simply than the Jacquard, which requires the design to be graphed and punched on a series of cards. All these three devices are utilized in the serv-

ice of the auto industry in response to the public demand for new and brilliant styles.

Present trends in all sections of decoration leave no doubt that today the public desires more colorful settings than formerly. The demand for color is increasing, having arisen primarily, among other causes, in connection with the travel industry. New contacts with the color and glamour of the Caribbean, Africa, the Pacific Islands and the Orient have opened up fresh fields in the use of color which decorators have eagerly assimilated and the public as eagerly accepted. It has hit the automobile industry at the same moment that new fast-to-sunlight pigments for body colors and new fast dyes for upholstery have become available. And it has provided new brilliance and sales appeal at a time when the market is becoming rather competitive.

Of course for the textile industry the automobile business is not always a bed of roses. Where Detroit used to place an order with a mill for half a million yards of a single fabric dyed in one color, today the same purchaser may place an order for an equal volume in five different two-tone color combinations, requiring a ten-color palette.

The Cost Factor

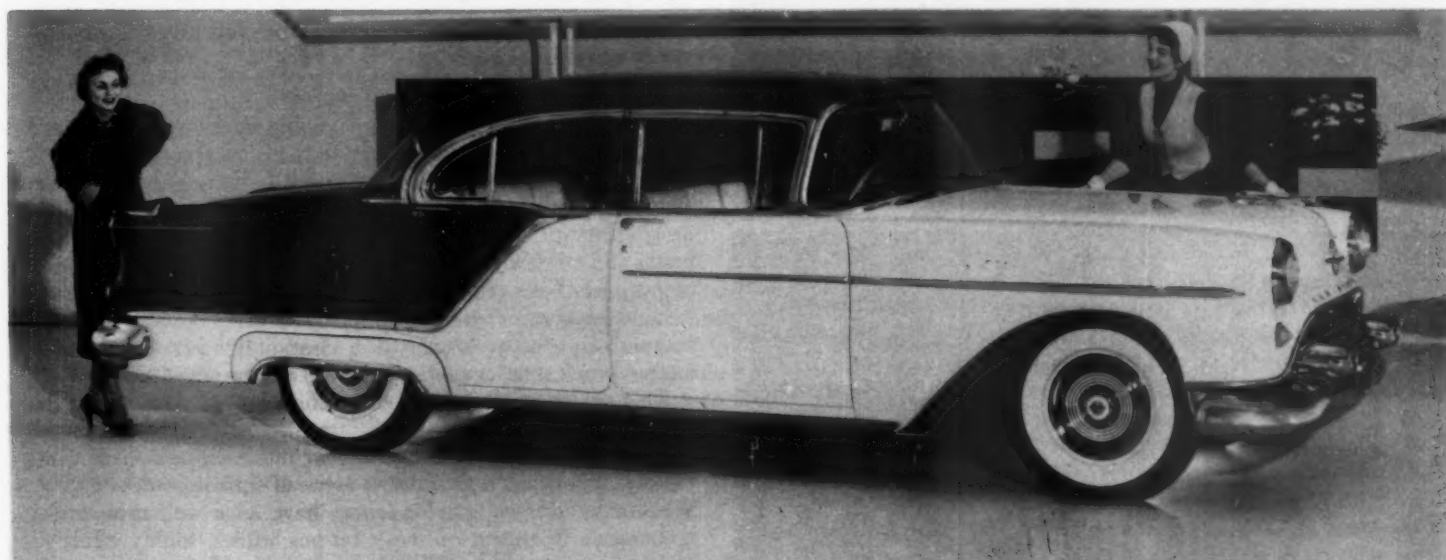
Do the new styles cost the consumer more? The answer is that in most cases he is paying less than he did a year ago. The industry has seen so many fabric and fiber developments in the last few years that today ways exist of giving the public a more gaily styled, eye-catching upholstery than could be bought five years ago for the same cost.

To sum up, the Jacquard trend means that the public is being offered more variety in the direction of color and design appeal today than ever before, but with a strict eye on the cost factor.



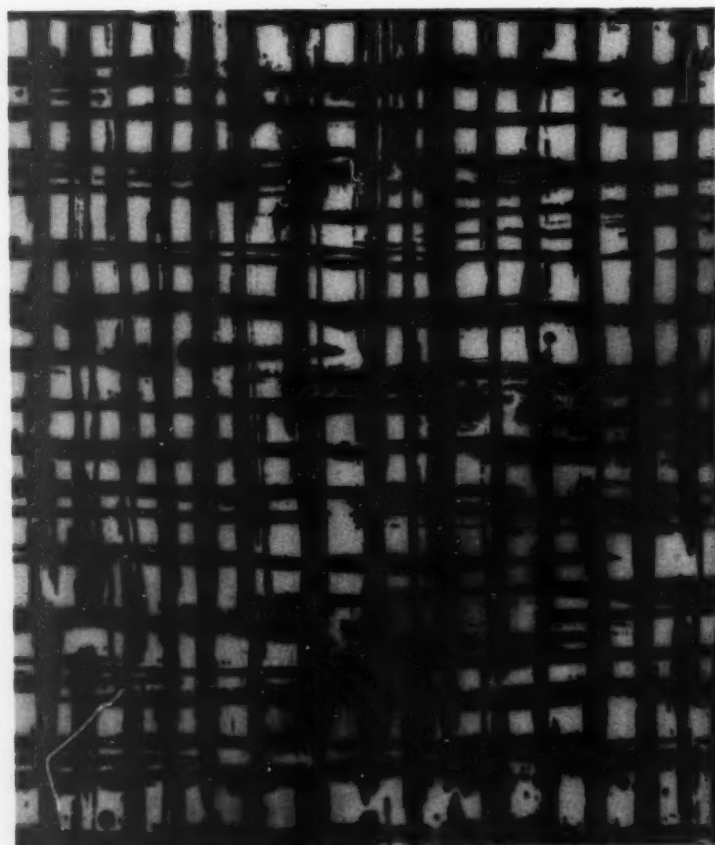
FOCUS ON STYLE

In its 1954 designs Oldsmobile, too, recognizes the importance of fabric styling. In the 88 four-door sedan, above, the makers offer three upholstery color choices in two types of nylon cloth. At center the 98 four-door sedan has a new two-tone paint effect, and the rich upholstery is tailored over foam-rubber cushioning. The Super 88 convertible, at bottom, is offered with six choices of leather upholstery. In every case, the stylist has kept his weather eye open for the woman's vote.





SWOOSH PRINT: A hand-screened print by June Groff, the variegated random motif reminiscent of fine marble. On WELLINGTON SEARS white filament nylon, it is versatile enough to be used as an upholstery, slip cover or drapery fabric. From LARSEN.



FREEHAND PLAID: Hand-screened print by Groff which looks particularly striking in dull charcoal on white filament nylon and which may be used as upholstery, drapery or slip cover fabric.

FROM WORK TO GLAMOR

In the new Larsen collection of interior decorative fabrics some of the finest and most durable nylon fabrics ever engineered for industrial uses by Wellington Sears and Co. have been admirably switched from work to glamor.

Fabrics for work become fabrics for beauty in a new group of Wellington Sears nylon industrial textiles introduced now for the first time to interior designers by Larsen.

The latest addition to the Larsen collection embodies an interesting new concept of decorative materials. Wellington Sears Company, leading producer of industrial textiles with a century-old tradition in this specialized field, originally developed these fabrics for heaviest industrial duties, such as chemical filtration. To the creative decorator, however, these fabrics are also possessed of valuable qualities.

Designed to Work

First, they are designed to work; being woven and constructed to rigid specifications, and proven in industry, their durability is far superior to conventional upholstery fabrics. They are made of 100% nylon, and are distinguished by superior strength, toughness, elasticity, abrasion- and flex-resistance, and resistance to moths and mildew. Moreover, these fabrics, by their very honesty of purpose, have real character in keeping with contemporary thought in interior design. Simple and plain woven, they are wonderfully sturdy, firm-handed, clean-looking . . . functionally adapted for use as draperies, upholsteries or slip-covers.

This natural cleanness is evidenced in Larsen's concept of the freshest color idea: *Alpine White*. The natural whiteness of nylon, untinted, has a sparkling mountain-air crispness completely in keeping with modern ideas of indoor-outdoor living. What makes this white nylon fabric practical as well as beautiful is Larsen's treatment of these fabrics with a highly effective soil-resistant finish, readily cleanable with a damp cloth. This same treatment has been applied to the fabrics in custom-dyed colors. A flame-retardant finish can also be provided, where necessary, to conform with local fire laws.

June Groff supplies ingenious pigmented hand prints for the new nylon collection. Many are keyed to an intriguing *swoosh* motif varied at random, suggestive of fine marble. Another interesting treatment superimposes one shade on another.

An Insulating Fabric

An example of a utility fabric intended for high-style decorative applications is a revolutionary drapery liner, originally developed as an insulating fabric for use in extreme climates, which has shown completely unexpected value and versatility. It not only has special qualities for controlling room temperature — retention of heat or of coolness — but it also absorbs sound, defies moths and may be washed or dry cleaned. This drapery liner, Fiber-Temp, is a new Fiberglas product developed by the Fiber-Temp Corporation. It can be used either attached directly to the drapery to form one unit, or hung independently for increased versatility and economy of space and material. As shown, the liner is faced with white lightweight spun nylon.

HIGH FIDELITY FABRIC

A growing fabric specialty which meets the specific needs of the sound engineer in various types of application.

The radio industry today is manufacturing approximately twenty million radio and television sets annually, with an expanding market covering types for domestic, institutional, automobile and other fields, and involving a fabric demand of perhaps not less than a million yards a year.

Until lately radio and television manufacturers were so busy meeting the demands of a vastly expanding industry that the possibilities of making specialized fabrics for the mass market in this field had not been sufficiently investigated. Recently, however, the activities of the *Hi-Fi* fraternity, performing the same function as the racing enthusiasts in the automobile field, have called attention to speaker grille material as one of the factors prominently affecting tonal quality of reproduction.

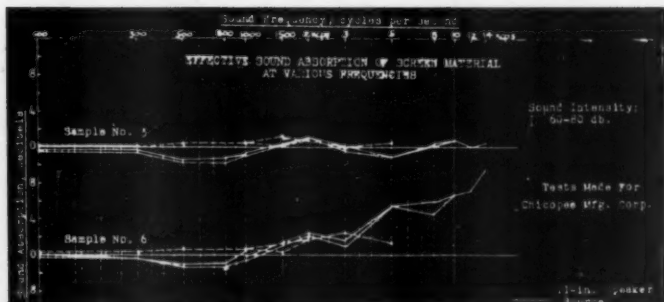
The grille was covered, from the time that the horn type loud speaker fell into disrepute, with any convenient fabric whose mesh was open enough to allow fairly free passage to the sound, and whose weave was unobtrusive or decorative in a quiet way.

Present Day Requirements

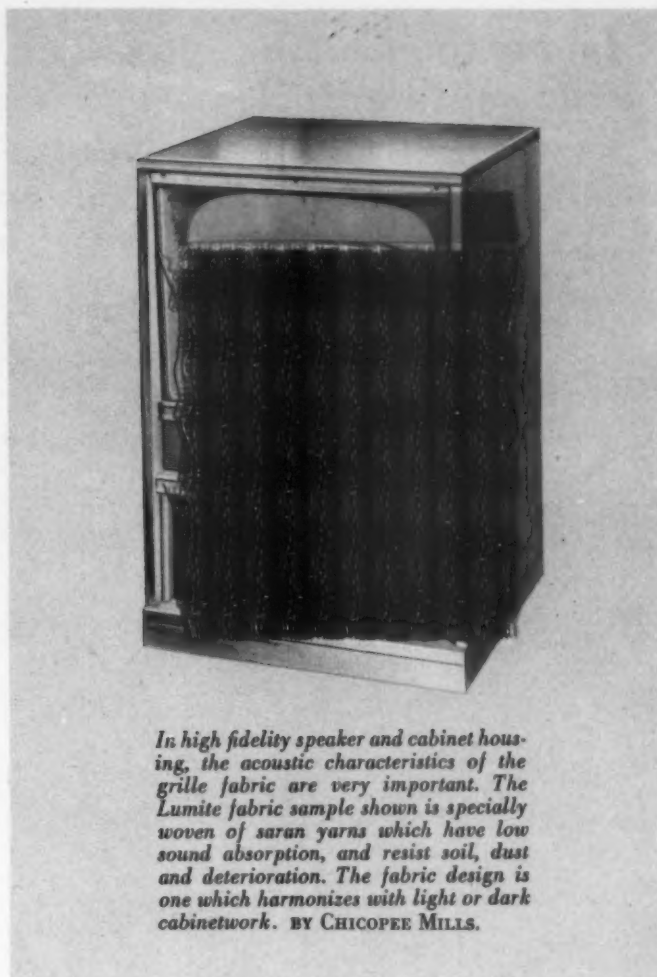
The speaker fabric of a modern radio or television set has not only to be styled to produce a harmonious decorative effect with dark or light wood or metal cabinets, to accord with a variety of styles in furnishing; it has to have, in addition, elegance and a certain style, as well as a number of other physical qualities. It must be firm and not sag, it must have a neat and pleasing appearance, it must not collect dust or dirt easily, and must be resistant to stains and soil.

Hidden Properties

These are the physical requirements, but there are in addition vital inner properties. The fabric should have a very low sound absorption, particularly in the high frequency range of vibrations up to 14,000 cycles, a region where most fabrics make their worst acoustic showing. In this range the important overtones



Comparison of the effective sound absorption of two grille fabrics within the range of 100 and 14,000 cycles per second. Sample No. 5, a saran fabric, shows approximately 2% distortion, while sample No. 6, a standard grille fabric, shows absorption up to about 10%.



In high fidelity speaker and cabinet housing, the acoustic characteristics of the grille fabric are very important. The Lumite fabric sample shown is specially woven of saran yarns which have low sound absorption, and resist soil, dust and deterioration. The fabric design is one which harmonizes with light or dark cabinetwork. BY CHICOPEE MILLS.

in music and the sibilants in speech—without which good quality is not to be had—are found.

After many experiments in independent testing laboratories, regarding the sound absorption characteristics of various fibers and fabrics, the technicians came up with a strange paradox: when one of the usual speaker fabrics was placed over the grille, the sound in the speaker decreased by a definite percentage, in the case of certain saran fabrics an increase in sound of as much as 2% was observed. This proved to be due to the fact that the fabric not only did not absorb sound, but even reflected some of it back into the speaker. These results led to the conclusion that it must be possible to weave specialty fabrics which would give greatly improved quality without any diminution in tonal volume, and weave them on a commercial basis.

Additional Features

Fabrics woven of these yarns have, incidentally, additional desirable features: they do not easily soil, rot or corrode, and they are resistant to acids and alkalis, soil and moisture, oil and grease. The stiffness of monofilament yarn makes it possible to construct a weave which, while open, yet has a textured three-dimensional effect.

Above is shown one of the new Lumite saran fabrics, woven for the sound engineering branches of the electrical and electronic industries. These recently introduced fabrics are having a marked success among leading makers of radio, phonograph and television sets which aim to give the consumer value for his investment. The coming of color-TV will call forth fresh demands for greater perfection in sound techniques. It may be safely anticipated that the use of such specialty fabrics will, as in other fields, aid in increasing sales for the mills, the set manufacturers and the retail stores which offer sets to the public •

Among the clothing specialties which have grown up in connection with new transportation industries is the manufacture of airline personnel uniforms, including those for hostesses, from a variety of standard fabrics. This is a rapidly extending field, the main trends of which are reviewed and illustrated in the following pages.



PHOTO: SEABOARD AND WESTERN AIRLINES

The flight stewardesses of 1932 wore the uniform shown below. While their duties are much the same today, their uniform has style and chic.



Airline Hostess Uniforms

WHEN AN AIRLINE HOSTESS steps aboard your plane, looking twice as fresh as the proverbial daisy, you probably do not stop to think how this miracle of chic has been achieved. Nor when she steps off the plane, neat as ever after a strenuous trip, do you consider how many years of experience in making uniforms for the airlines have gone into that result.

The truth is that progress in fabrics and in the design of clothing have done much to make the airline hostess one of America's best-dressed women today.

In the late twenties and early thirties, when the expansion of the airlines resulted in development of uniforms for all personnel, the opinion was that the hostess should wear a uniform similar to that of male personnel, without a thought for its attractiveness or its relation to current fashion trends. The result was that most stewardess and hostess uniforms were manufactured by uniform concerns which produced women's garments in the style of men's uniforms in men's shops, by workers skilled only in the handling of men's garments.

When it was realized that the mannish tailored; military styled woman's uniform was neither attractive nor feminine, it was supplanted by an outfit designed along softer, more womanly lines. Some of the leading women's dress designers were consulted and the airlines themselves conducted research on this problem. The objective was to produce a uniform which would be both flattering and capable of withstanding hard wear, based on the finest qualities of fabrics suitable for the purpose.

At that time uniforms were for the most part made to measure. The number of hostesses employed by any one airline did not

(please turn)

DATA AND PHOTOGRAPHS COURTESY
DELTA UNIFORMS, NEW YORK.

Style in 1940. These girls were wearing the latest uniforms as they lined up before taking over duties as Chicago and Southern Air Lines' first flight stewardesses.





Trans-Texas Airlines combines practicality with a romantic western touch.

AIRLINE HOSTESS UNIFORMS ... continued

warrant production of stock sizes and with small numbers of personnel the time consumed in fittings was relatively small. At the present, while some lines still prefer to use made to measure garments, for others which may employ as many as seven hundred or more hostesses, with a relatively high rate of turnover, the two or three fittings which would be necessary make the stock size system the logical solution. It is nevertheless of utmost importance that stock size uniforms fit perfectly. They are subjected to heavy wear under service conditions and are dry cleaned on an average of once a week, yet they must look attractive and preserve their shape and fit at all times. In most cases the hostesses pay for their two initial uniforms themselves and this is a further reason why the uniforms are expected to give satisfactory wear over a long period of time.

The result has been that airline purchasing agents prefer to
(please turn)



Capitol Airlines retains a hint of the uniform's military origins in the shoulder buttons.



Trans-Canada's uniform has developed from the military type of 1939 (left) to today's neat style (right).

Three decades of style are shown below in uniforms of United Airlines — for 1932, 1942 and 1953.

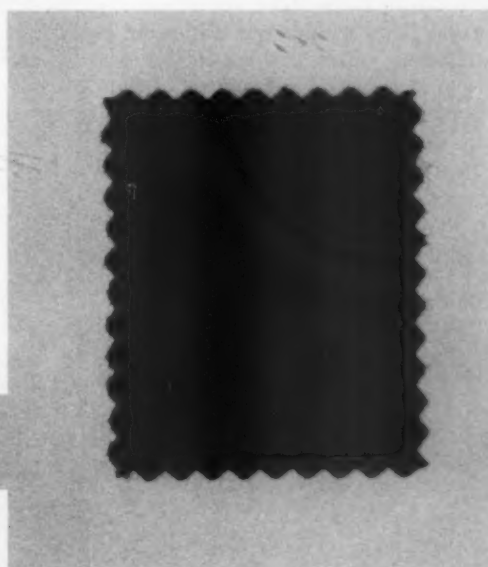




Known in almost every country for elegance and practical style, the Pan American hostess uniform has been largely responsible for a high standard which airlines in foreign countries have emulated.



An all-worsted virgin wool twelve-ounce sheen gabardine, widely used for airline hostess uniforms, which has exceptional tailoring quality and serviceability, by DEERING MILLIKEN.





Trans-Texas Airlines combines practicality with a romantic western touch.



Trans-Canada's uniform has developed from the military type of 1939 (left) to today's neat style (right).

AIRLINE HOSTESS UNIFORMS ... continued

warrant production of stock sizes and with small numbers of personnel the time consumed in fittings was relatively small. At the present, while some lines still prefer to use made to measure garments, for others which may employ as many as seven hundred or more hostesses, with a relatively high rate of turnover, the two or three fittings which would be necessary make the stock size system the logical solution. It is nevertheless of utmost importance that stock size uniforms fit perfectly. They are subjected to heavy wear under service conditions and are dry cleaned on an average of once a week, yet they must look attractive and preserve their shape and fit at all times. In most cases the hostesses pay for their two initial uniforms themselves and this is a further reason why the uniforms are expected to give satisfactory wear over a long period of time.

The result has been that airline purchasing agents prefer to

(please turn)



Capitol Airlines retains a hint of the uniform's military origins in the shoulder buttons.





Known in almost every country for elegance and practical style, the Pan American hostess uniform has been largely responsible for a high standard which airlines in foreign countries have emulated.



An all-worsted virgin wool twelve-ounce sheen gabardine, widely used for airline hostess uniforms, which has exceptional tailoring quality and serviceability, by DEERING MILLIKEN.





Capitol Airlines



El Al Israel Airlines



Scandinavian Airlines



Braniff Airlines



KLM Royal Dutch Airlines



Eastern Airlines



Each of the group of hostesses above, at Chicago, wears the uniform of her own airline. Below, two B.O.A.C. hostesses in front of their jet Comet liner. Right, styled for comfort, is the weskit-type jacket without collar, for which the tailored shirt with revers provides the necessary feminine touch.

AIRLINE HOSTESS UNIFORMS . . . concluded

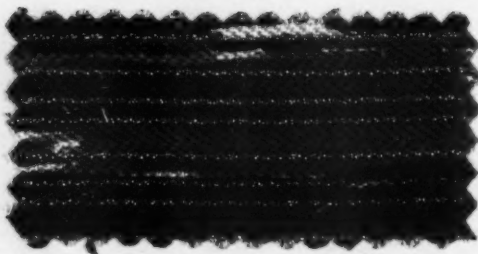
work with firms which are specialists in the field and to buy fabrics which have been proved in service to stand up to the severe conditions prevailing. Among the principal mills specializing in fabrics for hostess uniforms and the fabrics most widely adopted are:

Forstmann . . . Charmeen, Milateen, Granateen
Pacific Worsted . . . Sheen Gabardine and Crepe Suitings
Deering, Milliken . . . Dacron blend, Sheen Gabardines and Tropicals
American Woolen . . . Regular and Sheen Gabardines and Tropicals

While airlines vary considerably in their choice of style, design and manufacture of the hostess uniform, they agree on having their hats designed by Marie Hannauer of New York. She turns out most of the outstanding and smartly designed airline hostess hats for many of the world's airlines.

Not all the beauty and originality of design belongs to the American hostess — the Scandinavian, the Dutch and other airlines have created styles which have outstanding excellence — but the developments which have taken place in this country have set a world fashion in combining smartness, chic and practicality, and proving once again the supremacy of the American textile industry in meeting the needs of today's pattern of living.





A screen-printed decorative fabric which uses Metlon metallic yarn in the filling to give brilliance

BY EDGAR FABRICS

METALLIC YARNS BRING NEW MAGIC TO SCREEN-PRINTED DECORATIVE FABRICS

A growing use of metallic yarns in several textile fields stems directly from the revolution in our way of living, fostered by the technological developments of a hundred years.

WHAT A CHANGE has taken place since the time when, barely a century ago, the universal use of brown woodwork, accompanied by dark flooring, tiles and stonework, was evoked by admiration for Gothic art!

The revolution in technology which brought electric lights to the home banished also the last dark corners and swept them vacuum-clean, removing every speck of dust and cobweb and leaving them spotless. Somber decoration could no longer claim even the merit of camouflaging the last disheveled nook.

There followed the chemical revolution which brought with it many new brilliant dyes and pigments. Until it came, the chief colors commercially available were vegetable dyes and natural earth colors, both keyed in a minor scale of relatively modest range. With the advent of chemically synthesized dyes the whole spectrum range from the artist's palette became suddenly available to the interior decorator.

Styling Revolution

The revolutions in power and chemicals, technological in character, brought in their train a radical change in our way of life, greater probably than any which an equal time span had previously seen. Less emphasis began to be placed on the work-horse aspects of life, and increasing possibilities were opened for integrating, esthetically as well as practically, a new pattern of living, more lively in character than our traditional pattern.

Now we are moving into a third revolution, consequent on this desire for an esthetic yet practical integration of everyday living. The styling revolution represents the impact of this idea on the things we use and the objects by which we are surrounded.

The first things which it has touched are many of the manufactured goods in common domestic use among the great mass of people in this country; the telephone, the steam iron, the refrigerator and the automobile are notable examples. The industrial designer, a new breed of technological artist, is spreading this idea gradually into the great areas which have not so far been reached — into engineering, factory and agricultural equipment.

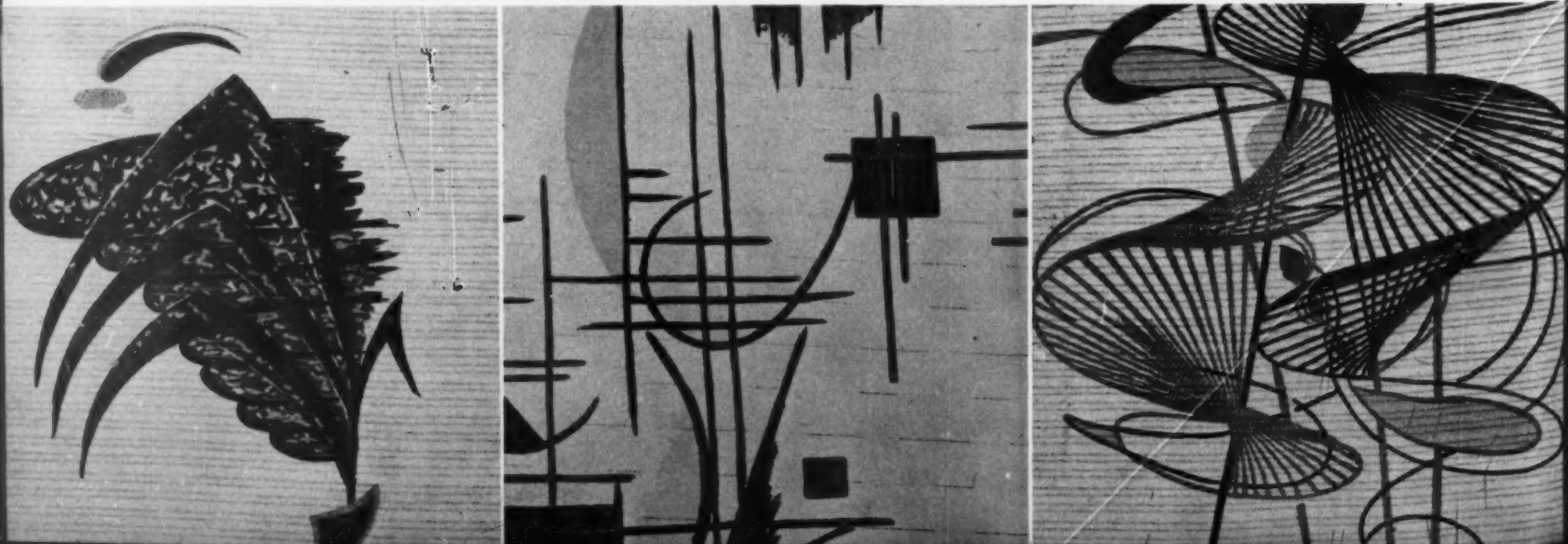
Influences on Textiles

In the field of textiles, traditionally highly styled, the revolution in living has naturally brought new influences to bear. They have been brought by new machines, new materials and new techniques responsible for a host of new qualities and appearances, in which many decorative aspects are concerned. Among these influences are man-made fibers, filament yarns, bright and dull lusters, dope-dyed yarns, special heavy denier and fine denier yarns, and many other results of textile inventiveness.

A striking example of the injection by such means of a heightened note into our surroundings is the rapidly growing use in decorative fabrics of metallic yarns, as finer and more permanent non-tarnishing types become available. Brilliant hand-screened prints are being placed upon a background of woven metallic design, whose luxurious glint adds a new excitement and richness to the fabric, which can be utilized where strong lighting is present, as for window draperies and similar furnishings.

This is a development which is likely to continue, because it is part of an already established trend of our times, as long as new types of metallic yarn are developed and made available.

Three examples of designs which are modern in feeling and in which metallic yarn adds a new dimension, from Edgar Fabrics.



letters to the editor

MORE ON AUTO STYLING RESEARCH

TO THE EDITORS:

I read with great interest your feature on automobile upholstery fabrics, in the Winter Issue of AMERICAN FABRICS. I was particularly impressed by the story on industrial fabrics as used in the automobile industry. As an industrial designer, I have long been sensitive to the neglect, in this field, of fabrics which combine the durability which is essential to transportation needs with the high fashion which the modern consumer has learned to demand. I am impressed by the fact that Detroit is now fashion-conscious, and that almost all of the car manufacturers are now featuring fine styling.

It occurs to me, however, that the research methods of the motor car sales departments must now be uncovering information which can be of direct use to the textile industry as a whole. I would like to know, for example, how the color preferences of consumers break down geographically. Is it true, for example, that consumers in the southern and warmer areas prefer colors which are lighter or brighter than those in demand in New England and the colder areas? Is green by and large the most preferred color for interiors as well as automobile paint surfaces? Is there a difference between the color preferences of men and women? Are economic levels a factor in color preference?

It seems to me that it would be most helpful to those of us in other fields of textile design if AMERICAN FABRICS would follow through this initial — and most valuable — presentation, and publish in this connection more of the significant findings of the motor industry.

William H. Hammond
Culver City, Cal.

Editors' Note: An article by Howard Ketcham covering specific points of this subject will be found on page 113 of this issue.

AMERICAN FABRICS brings you advance news of what's coming up in the fashion-fabrics fields.

TEXTILE TECHNOLOGISTS FOR THE ARMY

TO THE EDITORS:

The Civil Service has recently announced an examination for Textile Technologists for the new Quartermaster Research and Development Command now being constructed at Natick, Massachusetts, which will undoubtedly be of

interest to readers of your publication. The announcement of this examination outlines the experience required of applicants for employment in a range of positions from \$4,205 to \$9,600 per year.

We would appreciate your calling this announcement to the attention of your readers. They may obtain forms to file under this examination from the Board of United States Civil Service Examiners, Quartermaster, Research and Development Command, Natick, Massachusetts.

S. J. Kennedy
Research and Development
Quartermaster General's Office
Washington, D. C.

Each issue of AMERICAN FABRICS brings you knowledge and information based on authenticity.

FASHIONS IN ESKIMOLAND

TO THE EDITORS:

I have made a number of trips to the North Country, and it has been my observation that people generally are tremendously interested in the ways of life in the Arctic.

Inasmuch as you are interested particularly in fabrics, I have selected two from many hundreds of pictures I have made in the North Country showing some Eskimo young ladies with the writer. In one of the pictures the girls are wearing, respectively, a paisley patterned skirt and a clan tartan. In the other, the shawls that the two girls are wearing are imported woolen shawls from Scotland and these shawls, as well as the print dresses over which they are worn, are taken into Eskimoland by the Hudson's Bay Com-

pany and are traded to the Eskimos in exchange for white fox furs.

In the extreme northern Arctic, the Eskimos continue to wear sealskin, but in some of the Hudson's Bay



Arctic posts, a bit further south, these fabrics have made their appearance in recent years. The photographs were taken at Fort Chimo in Ungava Bay.

Herman P. Dean
Standard Printing & Publishing
Huntington, W. Va.

New developments and uses of fabrics in industrial fields are covered in every issue of AMERICAN FABRICS.

In the Next Issue . . .

AN INDEX OF AMERICAN FABRICS ARTICLES

For a long time the Editors have been contemplating and planning the publication of a complete cross-index of articles and subjects presented in American Fabrics since the first issue. Now such a comprehensive index, covering the full twenty-eight issues published to date, is in the last stages of preparation and will be presented in Issue No. 29. The Editors wish to acknowledge with deepest thanks the work of the Alumni Memorial Library of the Lowell Technological Institute, in Lowell, Massachusetts, in the preparation of this index. The listings will cover references both to title and subject of each article published.

We believe that the publication of this index will be of great value to all our subscribers — in retail, industrial, design, and educational fields — and will provide a ready reference to material covering the textile developments and achievements of recent years.

ON NON-WOVEN TEXTILE PRODUCTS

TO THE EDITORS:

For some time I have been associated with this company which has developed and sells machinery to make non-woven materials and fabrics. It is a never-ending source of interest to me to note the variety of end products made with these machines, including clothing interlinings, rug cushions and backing, felts, filters, insulations, upholstery materials, abrasives, etc.; also the fact that in many cases waste materials, particularly short fibers, are utilized.

It has occurred to me that the story of the development of this equipment and its many and varied applications would make an interesting story for your subscribers, probably in the section devoted to industrial textiles, and with that thought in mind I bring this suggestion to your attention.

Your magazine is one of my prized possessions and the people in the textile division here in our organization enjoy having me share it with them.

Eleanore T. Sunderlin
Curlator Corporation
East Rochester, N. Y.

To increase volume and maintain profits, each issue of AMERICAN FABRICS brings you valuable, authentic, and needed information.

SILK-SCREENING

TO THE EDITORS:

In the No. 27 issue of AMERICAN FABRICS, on page 62, I noticed with great interest an article pertaining to a machine that prints — in silk screens — dress, drapery and other fabrics of this nature. My partner and I design and silk-screen a line of drapery fabrics in the conventional manner, and we are therefore especially interested in this new machine development.

Eric Erickson
Eric Hand Prints
Los Angeles, Cal.

STUDENT INFORMATION

TO THE EDITORS:

The textile information in AMERICAN FABRICS has become indispensable in teaching clothing at our technical school. Our text books are so quickly out of date. I am planning to copy out excerpts from pages 74 to 80 in Issue No. 27 to give to my students. Otherwise, I fear they will wear out my treasured magazine!

Elizabeth Ritchie
Winnipeg Technical H. S.
Winnipeg, Canada

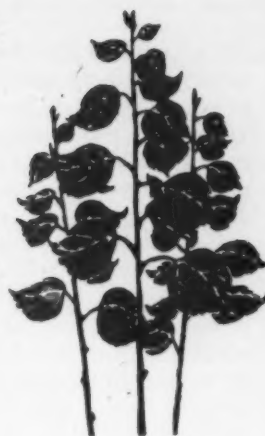


RAMIE

*Modern technology is helping to make one of nature's
oldest fibers serve the needs of today's living.*



PROGRESS REPORT ON RAMIE. *While we have become accustomed to the arrival of new, untried fibers fresh from the test-tube on the textile scene, it is a rare event when an old and tried fiber of proven virtue takes on a new role in the fabrics of fashion and industry.*



RAMIE RANKS AS A CLASSIC FIBER in that it has been grown and used — under the names of China-grass, rhea and ramie — in a score of countries from immemorial times. In China, Japan and India, in Malaya, Australia, the West Indies, the Cameroons, in Mexico and Brazil, in Southern Europe and in our own southern states its cultivation is successfully practised.

The reasons why it has always played a relatively minor role are mostly of a technical nature. Like linen, it is difficult to decorticate; it offers resistance to degumming and, above all, it is difficult, in practice, to obtain from this springing green nettle plant an even growth and consistent quality of fiber.

Ramie's special virtues, for which it has always been valued, are its great wet and dry strength, fine dyeing qualities, absorbency, resistance to shrinkage, mildew- and rot-resistance and high abrasion-resistance.

Traditional Techniques

Until recently, the only methods known for separating and cleaning the useful fibers from the stalk of the ramie plant

required exhaustive hand labor and the cost was prohibitive. Before the war the Japanese had achieved some progress with the use of hand-operated machinery for processing the stems, and the English had built or adapted special machinery for spinning the fibers. The whole question of commercial production was still, however, tied up with hand methods of cropping and laborious techniques for decortication. Only recently have discoveries of new methods for separating the fiber made ramie commercially available. This has resulted from approaching the combined problems of cultivation, fiber-extraction and processing, methodically and scientifically, with the aim of securing regular delivery and fiber uniformity on a productive scale.

Some Modern Methods

The character of the methods adopted by Newport Industries, which are producing ramie in the ten-foot loam beds of the Everglades, is of interest. First is the production of ramie in conjunction with other crops using similar machinery; the equipment can thereby be put to year-round use, with resulting

(please turn)



Ramie is grown on the ten-foot deep loam beds of the Everglades, Florida, where the water table can be controlled.

Ramie . . . continued

cut in overhead cost. Next is control of moisture by selecting a locality where the water table can be controlled, ensuring so far as possible uniform growth under varying seasonal conditions. Third is the use of every scientific aid for securing uniformity, such as defoliation by spraying from the air, and degumming in accordance with latest scientific procedures. For the old hand decorticating machinery, newly adapted machines which ensure uniformity have been substituted.

Three Crops Annually

The cropping period is divided into three sixty-day periods running through May-June, July-August and September-October. By the use of this plan, in combination with measures described above, a regular growth in each crop is achieved and uniformity results. Reports have been received from mills in France, Germany, Italy and Japan to which shipments have been made that the fiber produced by these methods is the top-ranking quality obtainable anywhere in the world.

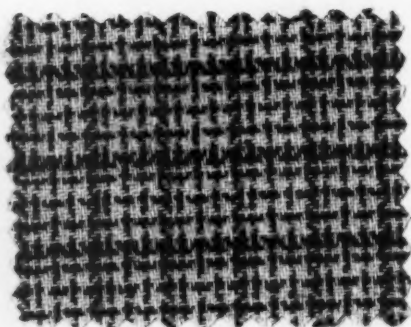
The considerations touched on above are those which are

enabling ramie to take a step forward into a place alongside major natural fibers, in blends with man-made and synthetic fibers where ramie's virtues are applied for particular end-uses.

Tested in New Blends

For example, after many experimental blends had been woven and tested, the Swift Manufacturing Company has placed on the market a blend of ramie, cotton and viscose staple. The final step in developing this fabric was working out, in cooperation with the American Cyanamid Company, a special Permell-Plus resin formulation which, designed for this particular blend, increases wrinkle-resistance, dye-fastness and spot-resistance.

This fabric has been shown in sports shoes, sportswear, men's sports coats, waistcoats, sports shirts and children's wear, in addition to hats and accessories. The ramie content imparts something of the silky ramie character and increases abrasion-resistance and wear-life. Wearing apparel of Huntclub fabric containing ramie is expected to be in retail stores by spring.



A fabric blended of ramie, cotton and rayon with a Permell-Plus crease- and spot-resistant finish for apparel uses by TURNER HALSEY.



Industrial Fabrics Quiz

Quiz yourself with the following twenty-five true or false questions concerned with industrial fabrics. Score 4 points for each correct answer, referring to the section below for the proper answers and explanations. Ratings: 88-100, excellent; 72-84, good; 60-68 fair.

	True	False
1. The product made by twisting two or more ply yarns together is called cord	_____	_____
2. The number of unit weights of 0.05 grams per 450-meter length is known as the denier.....	_____	_____
3. Cotton is an example of a hard or leaf bast fiber.....	_____	_____
4. A unit of length used to determine the yarn number is roving.....	_____	_____
5. 560 yards is the standard used to find the count of linen yarn.....	_____	_____
6. Chrysotile is the type of asbestos fiber used, possibly with other fibers rubbed in, to make a single strand without twist.....	_____	_____
7. The number of filling yarns per row of tufts in floor covering is known as the shot.....	_____	_____
8. S-S-Z or Z-Z-S is used in what is known as hawser twist in cord, rope and twine.....	_____	_____
9. A two-ply filling yarn is used in weaving gunny sacking.....	_____	_____
10. Denim is usually made with a 2-up and 1-down, right hand twill..	_____	_____
11. Burlap in the United States is referred to as Hessian in Great Britain, India and on the Continent.....	_____	_____
12. Short bast fibers removed by hackling are called line fibers.....	_____	_____
13. Heavy duck is limited to a square yard weight of 24 ounces.....	_____	_____
14. The terms, non-combustible and fireproof may be considered as practically synonymous	_____	_____
15. A non-flammable fabric may be referred to as being combustible..	_____	_____
16. Belt duck that is very compact in structure serves as the base for balata duck	_____	_____
17. Two decided assets of the ramie fiber are its ability to absorb water and its high tensile strength.....	_____	_____
18. The canal or central opening in a vegetable fiber is called medulla..	_____	_____
19. A material 8-inches or less in width and having a selvage on either side is classed as a narrow fabric.....	_____	_____
20. Sail duck is always made in a 24-inch width.....	_____	_____
21. Tire fabrics are usually 60-inches in width.....	_____	_____
22. Tobacco cloth is always made in a 36-inch width.....	_____	_____
23. Cotton denims and coverts are made in widths from 28-inches to 30-inches	_____	_____
24. An S. F. Duck is one in which the warp is of single-ply yarn.....	_____	_____
25. Osnaburg made from cotton which includes some waste is known as "clean osnaburg".....	_____	_____

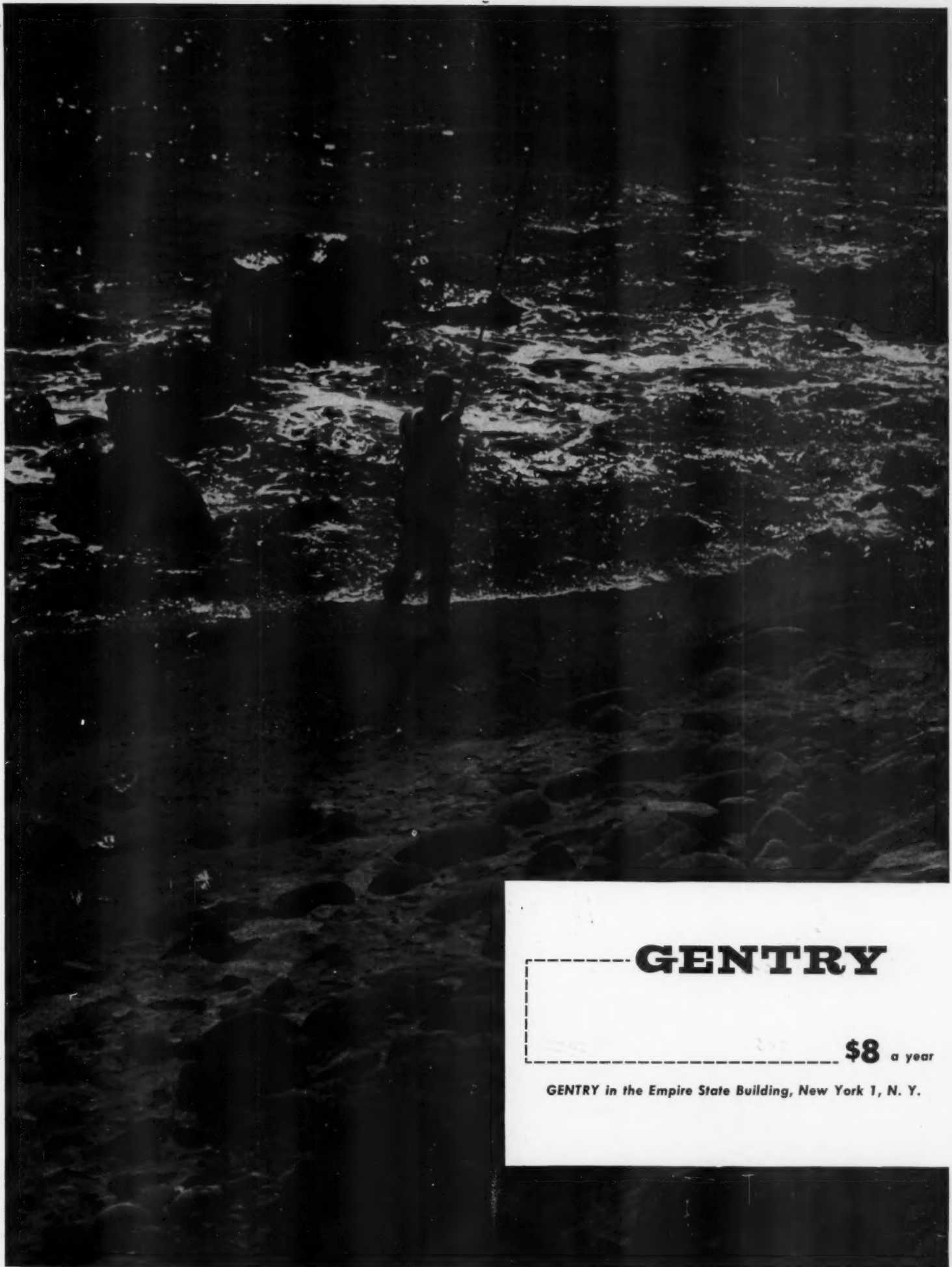
TRUE OR FALSE ANSWERS

1. True. 2. True. 3. False. Cotton is a seed bast fiber. 4. False. The unit of length is the hank. 5. False. The standard length or lea is 300 yards. 6. True. 7. True. 8. True. 9. False. A single-ply yarn is used. 10. False. Always made with a left-hand twill weave. 11. True. 12. False. They are called tow. 13. False. Some heavy ducks may run to 40 ounces or more per square yard. 14. True. 15. True. Such a fabric may burn but there is no flash. 16. True. Several layers are cemented together to make the product. 17. True. 18. False. This canal is called lumen. 19. False. Line of demarcation is 12-inches. 20. False. Sail duck is made in a standard 22-inch width. 21. True. 22. True. 23. True. 24. False. S.F. implies single filling duck. 25. False. Known as a part-waste or P.W. Osnaburg.



Advertisers' Index and their Advertising Agencies

AMERICAN CYANAMID COMPANY.....	4	GALEY & LORD, INC.	25
<i>Rcy S. Durstine, Inc., New York City</i>		<i>Donahue & Coe, Inc., New York City</i>	
AMERICAN ENKA CORP.	5	GEHRING LACES, INC.	17
<i>Carl Reimers Company, Inc., New York City</i>		<i>Charles Jay Co., Inc., New York City</i>	
AMERICAN SILK MILLS, INC.	41	GREENWOOD MILLS, INC.	21
<i>The Frederick-Clinton Company, Inc., New York City</i>		<i>Anderson & Cairns, Inc., New York City</i>	
AMERICAN TEXTILE COMPANY	22-23	MAX MANDEL LACES, INC.	27
<i>Leon A. Friedman, New York City</i>		<i>Ritter, Sanford & Price, Inc., New York City</i>	
AMERICAN VISCOSE CORP.	3	MCCAMPBELL & COMPANY (GREGG FINISHING)	32
<i>Hirshon-Garfield, Inc., New York City</i>		<i>Samuel Croot Company, Inc., New York City</i>	
ASSOCIATED DYE & PRINT COMPANY	34	MERRIMACK MANUFACTURING CO., INC.	37
<i>Alfred J. Silberstein-Bert Goldsmith, Inc., New York City</i>		<i>Robert B. Grady Company, New York City</i>	
JOSEPH BANCROFT & SONS COMPANY (EVERGLAZE)	30-31	METLON CORP.	9
<i>John Gilbert Craig Advertising, Inc., Wilmington, Del.</i>		<i>Ehrlich & Neuwirth, Inc., New York City</i>	
BATES FABRICS, INC.	Inside Back Cover	NATIVE LACES & TEXTILES, INC. (NATONA MILLS)	38
<i>James P. Sawyer, Inc., New York City</i>		<i>Harry Serwer, Inc., New York City</i>	
BATES FABRICS, INC.	136	NORTH CAROLINA FINISHING COMPANY	16
<i>James P. Sawyer, Inc., New York City</i>		<i>Direct</i>	
BEAUNIT MILLS, INC.	11	PEERLESS WOOLEN MILLS	19
<i>Norman D. Waters & Associates, Inc., New York City</i>		<i>Robert B. Grady Company, New York City</i>	
BELLMAN BROOK BLEACHERY COMPANY	13	PROCTOR & SCHWARTZ, INC.	6
<i>John Thomas Miller, New York City</i>		<i>Robert S. Kampmann, Jr., Philadelphia, Pa.</i>	
HANS C. BICK, INC.	39	PURITAN PIECE DYE WORKS	26
<i>Beaumont, Heller & Sperling, Inc., Reading, Pa.</i>		<i>Direct</i>	
BRAWER BROTHERS SILK CO., INC.	110	REEVES BROTHERS, INC.	10
<i>Harry Belfor Advertising, New York City</i>		<i>Goold and Tierney, Inc., New York City</i>	
CARLETON WOOLEN MILLS, INC. (EDW. P. LEVEEN SALES CORP.)	20	ROBBINS MILLS, INC.	111
<i>Liller, Neal and Battle Advertising Agency, New York City</i>		<i>Weiss & Geller, Inc., New York City</i>	
CELANESE CORP. OF AMERICA	8	SCOLA DYE WORKS	18
<i>Ellington & Company, Inc., New York City</i>		<i>Direct</i>	
CHATHAM MANUFACTURING COMPANY	112	TRIANGLE FINISHING COMPANY	15
<i>The M. H. Hackett Company, New York City</i>		<i>Robert Winternitz Advertising, New York City</i>	
CLUETT, PEABODY & COMPANY, INC. (SANFORIZED DIV.)	24	TRYON PROCESSING COMPANY	36
<i>Young & Rubicam, Inc., New York City</i>		<i>Ayer & Gillett, Inc., Charlotte, N. C.</i>	
CRANSTON PRINT WORKS	44	VELVERAY CORP.	33
<i>Anderson & Cairns, Inc., New York City</i>		<i>Mcruvin Sherres, Inc., New York City</i>	
DEFIANCE BLEACHERY	40	VIRGINIA-CAROLINA CHEMICAL CORP.	28-29
<i>Chambers & Wiswell, Inc., Boston, Mass.</i>		<i>Albert Sidney Noble Advertising, New York City</i>	
E. I. DU PONT DE NEMOURS & CO., INC.	7	WELLINGTON SEARS COMPANY	108
<i>Batten, Barton, Durstine & Osborn, Inc., New York City</i>		<i>Ellington & Company, Inc., New York City</i>	
FORSTMANN WOOLEN COMPANY	Inside Front Cover	I. ZENDMAN, INC.	12
<i>Monroe F. Dreher, Inc., New York City</i>		<i>Harry J. Jacknick & Co., New York City</i>	



GENTRY

\$8 a year

GENTRY in the Empire State Building, New York 1, N. Y.



releases creases

stays clean longer

washes easily, dries fast

never needs starch

"JUST HANG IT UP!"

irons smooth with a stroke

color-fast . . . shrinkage-controlled

permanently crisp and fresh

the first fine cotton

made to behave!



**"IT'S
DISCIPLINED!"**

*Here's the **most important** word in American fabrics today!*

*Here's the fabric that's a **smash hit** with cutters and customers!*

*Here's the process the **trade says** gives "maximum total performance!"*

*Here's the **continuing success story** that's producing terrific results!*

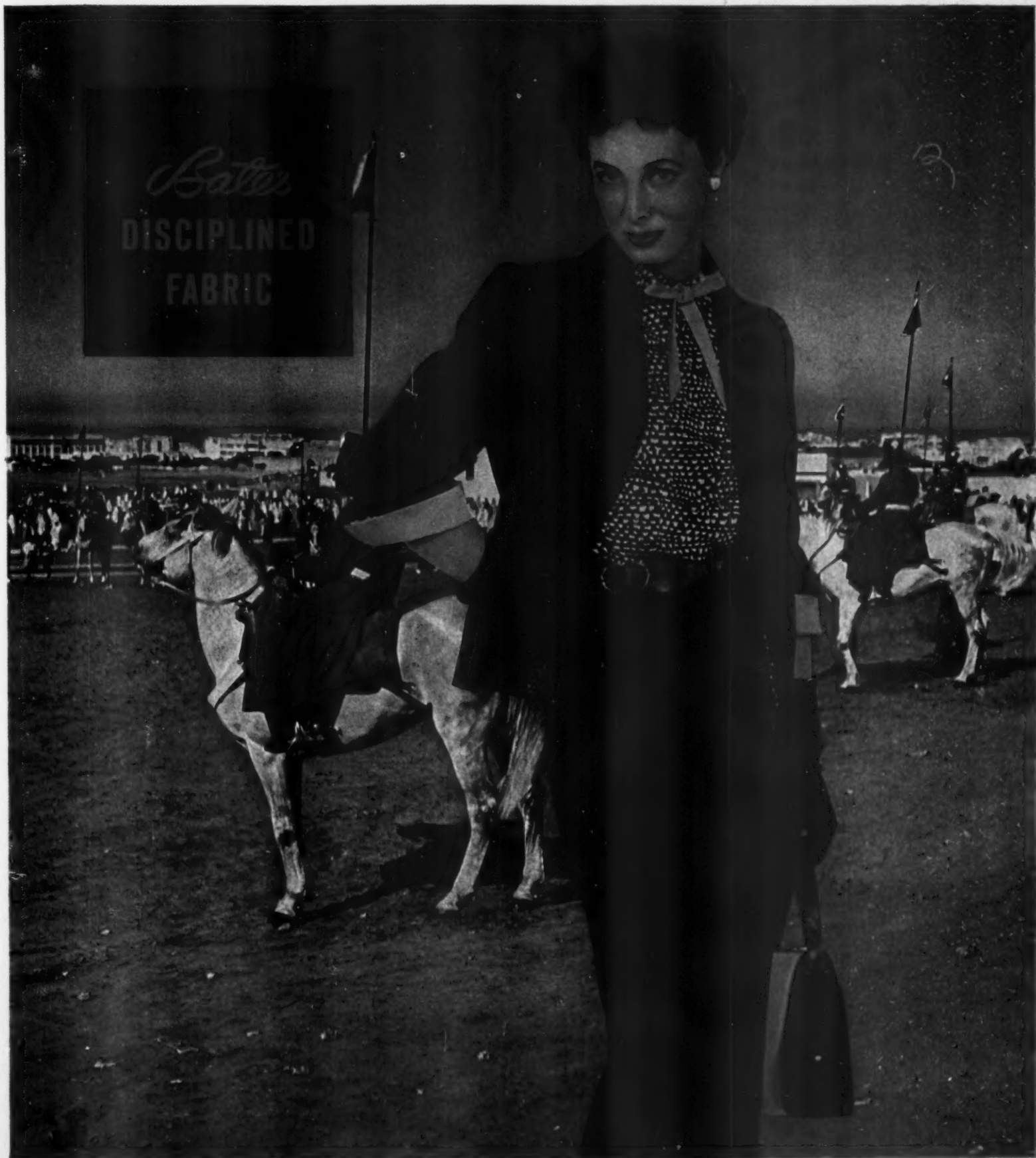
 **DISCIPLINED FABRIC®**

BATES FABRICS, INC., 80 WORTH STREET, NEW YORK 13

Duchess Royal designs the neatest travel suit going in Bates cotton matelasse. It holds shape and color, won't hold a wrinkle, won't call for pressing on arrival. Black, white, or navy, with Moroccan-print Disciplined cotton lining and blouse. Sizes 10 to 20, about \$35.00



Rita Gam is photographed against scenes from her brilliant new M-G-M color picture "Saadia" filmed in Morocco

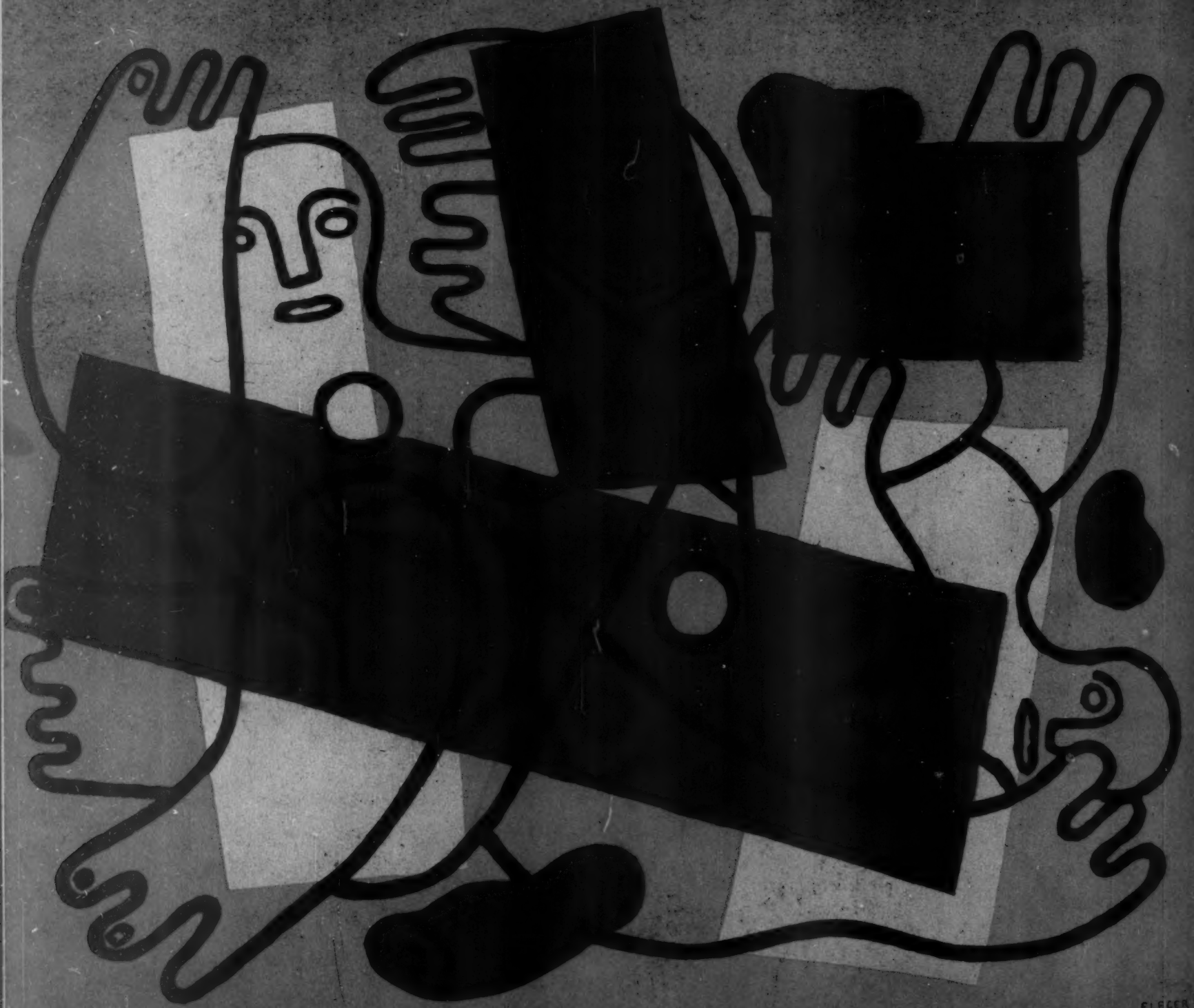


American Fabrics

NUMBER TWENTY-EIGHT

SPRING 1954

PRICE FOUR DOLLARS



FLECKER

INCORPORATING

American Industrial Materials